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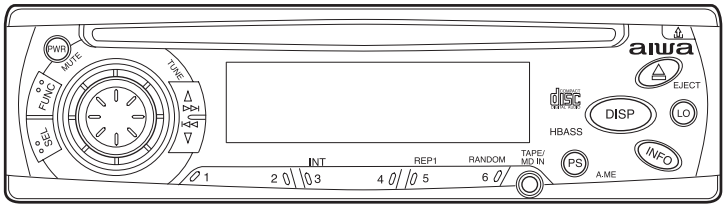
SERVICE

CDC-X447M YU
CDC-X507M YU



SERVICE MANUAL

STEREO CAR CD RECEIVER BASIC CD MECHANISM : CDC02AW1

• This Service Manual is the "Revision Publishing" and replaces "Simple Manual" (S/M Code No. 09-002-425-0T1).

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S/M Code No. 09-003-425-0R1

REVISION DATA

SPECIFICATIONS

RADIO SECTION

(FM)

Frequency Range	87.5 MHz –108 MHz (100 kHz steps) *
	87.5 MHz –108 MHz (50 kHz steps) *
Usable Sensitivity	12.7 dBf
50 dB Quieting Sensitivity	17.2 dBf
IF Rejection	80 dB
Frequency Response	30 Hz – 15,000 Hz
S/N Ratio	63 dB
Stereo Separation	35 dB at 1 kHz
Alternate Channel Selectivity	70 dB
Capture Ratio	3 dB

(AM)

Frequency Range	530 kHz – 1,710 kHz (10 kHz steps) *
	531 kHz – 1,602 kHz (9 kHz steps) *
Usable Sensitivity	30 μV (30 dB)

* **Set the frequency increment for your area using the switch on the bottom of the unit.**
(The switch is set at the factory to the 10 k position [for the U.S.A.])

CD SECTION

Frequency Response	17 Hz – 20 kHz +0/–3 dB
Dynamic Range	More than 80 dB
Channel Separation	More than 65 dB
S/N Ratio	More than 85 dB
Wow/Flutter	Unmeasurable

AUDIO SECTION

Max. Power Output	45 W x 4 channels

AUX IN input

Input Sensitivity (load impedance)	
AUX IN	300 mV (10 kΩ)

GENERAL

Power Supply Voltage	14.4 V (11 to 16 V allowable), DC, negative ground
Load Impedance	4 Ω
Tone Control	Bass ±10 dB at 100 Hz
	Treble ±10 dB at 10 kHz
Preamp Output Voltage (load impedance)	
	2.2 V (10 kΩ)
Installation Size	182 (W) x 53 (H) x 155 (D) mm ($7^1/_4$ (W) x $2^1/_8$ (H) x $6^1/_8$ (D) inches)

STEERING-WHEEL-MOUNTED REMOTE CONTROL UNIT

Dimensions	Approx. 67 (W) x 26 (H) x 27 (D) mm ($2^3/_4$ (W) x $1^1/_{16}$ (H) x $1^1/_8$ (D) inches) (excluding holder)
Weight	Approx. 38 g (1.33 oz.) (including holder, battery)

• Design and specifications are subject to change without notice.

ACCESSORIES / PACKAGE LIST

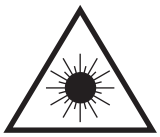
REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
1	8A-KC7-902-010		IB,INST YU,YL(3L,P)
1	8A-KCF-901-010		IB,YU(3L)507M
2	8Z-KC1-030-010		CASE,DFP-C
3	8Z-KC1-231-110		HLDR,HALF-C
4	8Z-KC1-235-010		HLDR,REAR MTG
5	8Z-KC1-232-010		KEY,REMOVE-C
6	87-B10-141-010		NUT,5 TYPE-2
7	87-B10-144-010		W,5.2-10-0.5
8	87-B10-145-010		W-SPR,5.3-8.5-1.5
9	87-B10-143-010		UT1+5-15 W/O SLOT
10	87-B10-216-010		U+2.6-4.0 ZINC BLK(BH M2.6)
11	8Z-KC1-244-010		S-SCREW,5*6 TH+TAPPING ST
12	8Z-KC1-250-010		S-SCREW,HEXAGON
13	8Z-KT1-616-010		CONN ASSY,16P B52
*14	R8-AZR-190-040		AZR-1 RCKCGNF

* NOTE: This remote controller is not an accessory part.
It is an individual model.

PROTECTION OF EYES FROM LASER BEAM DURING SERVICING

This set employs laser. Therefore, be sure to follow carefully the instructions below when servicing.

WARNING!!
WHEN SERVICING, DO NOT APPROACH THE LASER EXIT WITH THE EYE TOO CLOSELY. IN CASE IT IS NECESSARY TO CONFIRM LASER BEAM EMISSION. BE SURE TO OBSERVE FROM A DISTANCE OF MORE THAN 30cm FROM THE SURFACE OF THE OBJECTIVE LENS ON THE OPTICAL PICK-UP BLOCK.



- Caution: Invisible laser radiation when open and interlocks defeated avoid exposure to beam.
- Advarsel: Usynlig laserstråling ved åbning, når sikkerhedsafbrydere er ude af funktion. Undgå udsættelse for stråling.

VAROITUS!
Laiteen Käyttäminen muulla kuin tässä käyttöohjeessa mainitulla tavalla saataa altistaa käyt-täjän turvallisuusluokan 1 ylittävälle näkymättömälle lasersäteilylle.

VARNING!
Om apparaten används på annat sätt än vad som specificeras i denna bruksanvising, kan användaren utsättas för osynling laserstrålning, som överskrider gränsen för laserklass 1.

CAUTION
Use of controls or adjustments or performance of procedures other than those specified herin may result in hazardous radiation exposure.

ATTENTION
L'utillisation de commandes, réglages ou procédures autres que ceux spécifiés peut entraîner une dangereuse exposition aux radiations.

ADVARSEL
Usynlig laserståling ved åbning, når sikkerhedsafbrydereer ude af funktion. Undgå udsættelse for stråling.

This Compact Disc player is classified as a CLASS 1 LASER product.
The CLASS 1 LASER PRODUCT label is located on the rear exterior.

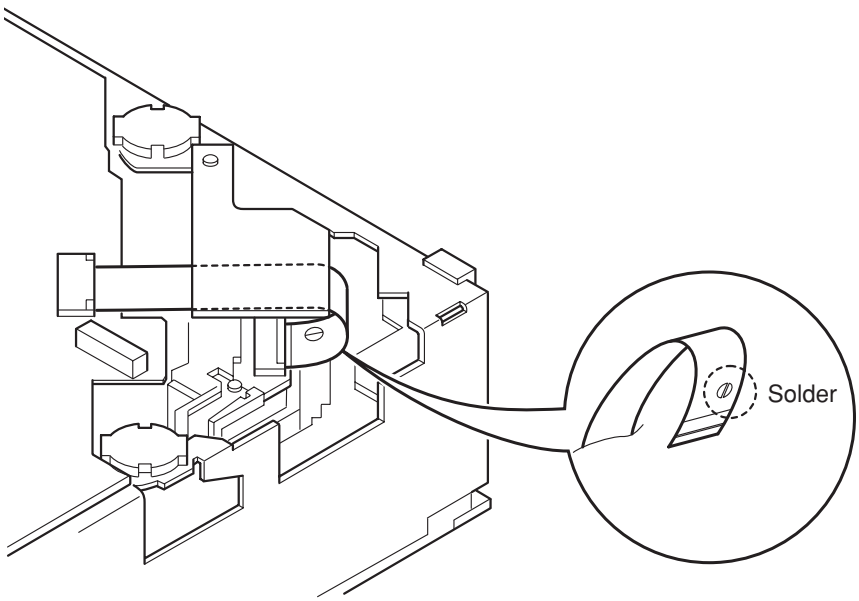
CLASS 1	LASER PRODUCT
KLASSE 1	LASER PRODUKT
LUOKAN 1	LASER LAITE
KLASS 1	LASER APPARAT

Precaution to replace Optical block

(KSS – 710A)

Body or clothes electrostatic potential could ruin laser diode in the optical block. Be sure ground body and workbench, and use care the clothes do not touch the diode.

1) After the connection, remove solder shown in right figure.



CAUTION WHEN SERVICING

1. Disassembly instructions
   1) Remove the COVER, TOP and COVER, BOTTOM.
   2) Remove the DFP.
   3) Remove the four screws (indicated by the arrows) from the CD mechanism. (Fig. 1)
      Screw (a) x 2: VTT2.6-6
      Screw (b) x 2: VTT2.6-3B

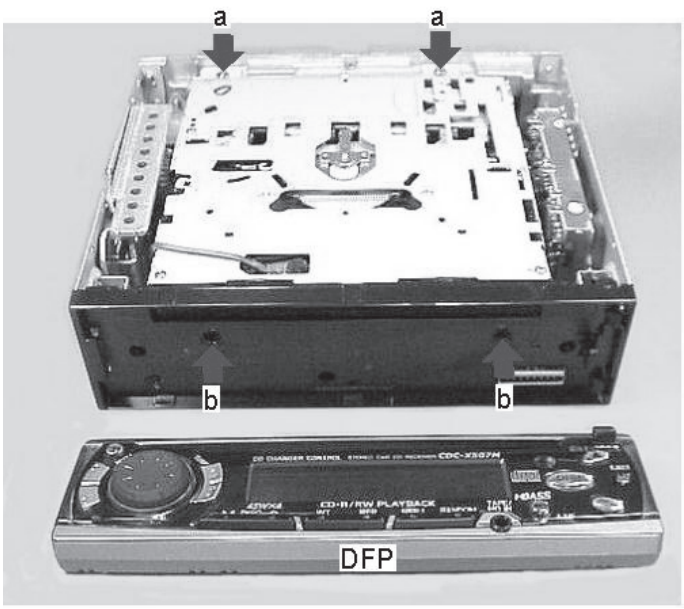


Fig. 1

2. Servicing position
   Put the DFP onto the CD CASE to fix it. (Fig. 2)

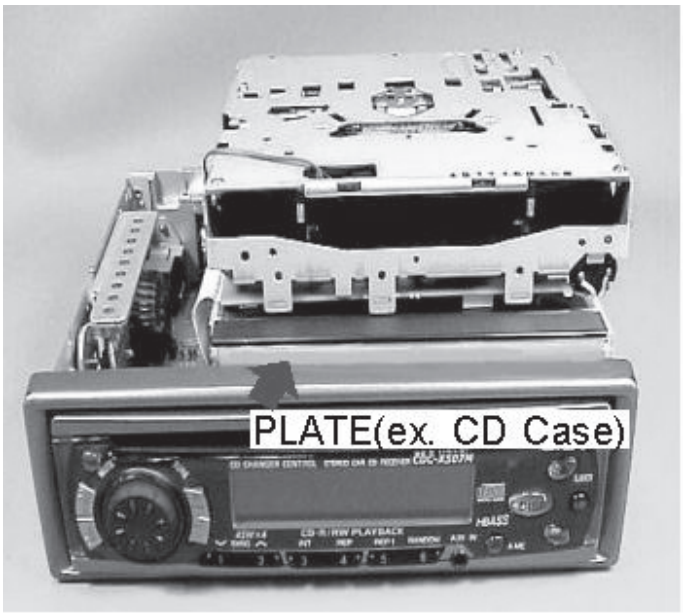


Fig. 2

ELECTRICAL MAIN PARTS LIST

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
IC			
	88-KT1-606-080		IC,PST994D
	8Z-KT1-622-010		C-IC,LC75374E
	87-A21-562-010		IC,LA4743B
	87-A21-622-030		C-IC,UPD178006AGC-540-3B9
	87-020-784-080		IC,TC4053BF
	88-KT1-608-010		C-IC,LC75854W
	87-A90-951-010		RCR UNIT,SBX1971-52<507M>
	87-A21-467-010		C-IC,CXA2581N
	87-A21-533-030		C-IC,CXD2587Q
	87-017-888-080		IC,NJM4558MD
	87-A21-534-030		C-IC,UPD78012FGC-656-AB8
	87-A21-161-040		C-IC,BA6392FP
	87-A20-712-040		C-IC,BA6417F
TRANSISTOR			
	87-A30-287-040		C-TR,DTC114TKA
	87-A30-289-040		C-TR,2SA1037AK(R)
	89-324-122-080		C-TR,2SC2412KR
	87-A30-290-010		TR,KTA1658(Y)
	87-A30-291-010		TR,KTC4369(Y)
	89-418-580-080		TR,2SD1858-TV2
	89-423-953-010		TR,2SD2395F
	89-113-625-080		C-TR,2SA1362GR
	87-A30-283-040		C-TR,DTA114YKA
	87-A30-248-040		C-TR,2SB1197KQ
	87-A30-011-080		C-TR,DTB113ZK
	87-A30-273-040		C-TR,DTC124EKA
	87-026-210-040		C-TR,DTC144EK
DIODE			
	87-A40-250-080		C-DIODE,DAN217
	87-A40-649-080		ZENER,MTZJ11A
	87-A40-624-080		ZENER,MTZJ10A
	87-A40-509-080		ZENER,MTZJ6.8C
	87-020-330-080		DIODE,DAP202K
	87-A40-620-080		ZENER,MTZJ6.2A
	87-A40-650-080		ZENER,MTZJ6.8A
	87-017-932-080		ZENER,MTZJ6.2B
	87-070-136-080		ZENER,MTZJ5.1B
	87-A40-798-010		DIODE,1N5402(3A/200V)
	87-020-465-080		DIODE,1SS133
	87-020-331-080		C-DIODE,DAN202K
	87-A40-817-040		C-ZENER,STZ6.8N
	87-A40-337-080		ZENER,MTZJ6.8B
	87-001-783-080		DIODE,1N4002
	87-020-331-080		C-DIODE,DAN202K
MAIN C.B			
ANT101	8Z-KT1-614-010		ANT,AW-002
C101	87-010-178-080		CHIP CAP,1000P
C102	87-010-197-080		CAP,CHIP 0.01 DM
C103	87-010-186-080		C-CAP,S 4700P-50 KB
C106	87-010-198-080		CAP,CHIP 0.022
C107	87-010-198-080		CAP,CHIP 0.022
C108	87-018-131-080		CAP,TC U 1000P-50 KB
C109	87-010-197-080		CAP,CHIP 0.01 DM
C111	87-010-196-080		CHIP CAPACITOR,0.1-25
C112	87-010-197-080		CAP,CHIP 0.01 DM
C113	87-010-197-080		CAP,CHIP 0.01 DM
C116	87-010-197-080		CAP,CHIP 0.01 DM
C117	87-010-197-080		CAP,CHIP 0.01 DM
C118	87-010-197-080		CAP,CHIP 0.01 DM
C119	87-010-495-040		CAP,E 2.2-50 GAS
C120	87-010-185-080		C-CAP,S 3900P-50 B
C121	87-012-365-080		C-CAP,S 0.027-25VBK
C122	87-012-365-080		C-CAP,S 0.027-25VBK
C123	87-012-358-080		C-CAP,S 0.47-10 FZ
C124	87-012-358-080		C-CAP,S 0.47-10 FZ
C131	87-010-182-080		C-CAP,S 2200P-50 KB
C202	87-012-358-080		C-CAP,S 0.47-10 FZ
C203	87-010-196-080		CHIP CAPACITOR,0.1-25
C205	87-010-553-040		CAP,E 47-16 GAS
C206	87-010-198-080		CAP,CHIP 0.022
C207	87-010-196-080		CHIP CAPACITOR,0.1-25
C208	87-010-196-080		CHIP CAPACITOR,0.1-25
C209	87-010-196-080		CHIP CAPACITOR,0.1-25
C211	87-010-198-080		CAP,CHIP 0.022
C212	87-010-196-080		CHIP CAPACITOR,0.1-25
C214	87-010-196-080		CHIP CAPACITOR,0.1-25
C216	87-010-198-080		CAP,CHIP 0.022
C217	87-010-196-080		CHIP CAPACITOR,0.1-25
C218	87-010-196-080		CHIP CAPACITOR,0.1-25
C219	87-010-182-080		C-CAP,S 2200P-50 B
C220	87-010-553-040		CAP,E 47-16 GAS
C251	87-012-368-080		C-CAP,S 0.1-50 ZF
C252	87-010-182-080		C-CAP,S 2200P-50 B
C301	87-012-358-080		C-CAP,S 0.47-10 FZ
C302	87-012-358-080		C-CAP,S 0.47-10 FZ
C303	87-010-805-080		CAP,S 1-16
C304	87-010-805-080		CAP,S 1-16
C305	87-010-184-080		CHIP CAPACITOR,3300P(K)
C306	87-010-184-080		CHIP CAPACITOR,3300P(K)
C307	87-010-198-080		CAP,CHIP 0.022
C308	87-010-198-080		CAP,CHIP 0.022
C309	87-010-805-080		C-CAP,S 1-16 ZF
C310	87-010-805-080		C-CAP,S 1-16 ZF
C311	87-A11-177-080		C-CAP,S 0.15-16 KB
C312	87-A11-177-080		C-CAP,S 0.15-16 KB
C313	87-A11-177-080		C-CAP,S 0.15-16 KB
C314	87-A11-177-080		C-CAP,S 0.15-16 KB
C315	87-010-805-080		C-CAP,S 1-16 ZF
C316	87-010-805-080		C-CAP,S 1-16 ZF
C317	87-010-196-080		CHIP CAPACITOR,0.1-25
C318	87-010-498-040		CAP,E 10-16 GAS
C321	87-010-555-040		CAP,E 100-10 GAS
C322	87-010-198-080		CAP,CHIP 0.022
C331	87-A11-062-080		C-CAP,S 2.2-16 ZF
C332	87-A11-062-080		C-CAP,S 2.2-16 ZF
C333	87-A11-062-080		C-CAP,S 2.2-16 ZF
C334	87-A11-062-080		C-CAP,S 2.2-16 ZF
C335	87-010-491-040		CAP,E 0.22-50 GAS
C336	87-010-491-040		CAP,E 0.22-50 GAS
C337	87-010-805-080		CAP,S 1-16
C338	87-010-805-080		CAP,S 1-16
C339	87-010-805-080		CAP,S 1-16
C340	87-010-805-080		CAP,S 1-16
C341	87-012-140-080		CAP,470P
C342	87-012-140-080		CAP,470P
C343	87-012-140-080		CAP,470P
C344	87-012-140-080		CAP,470P
C401	87-010-553-040		CAP,E 47-16 GAS
C402	87-012-358-080		C-CAP,S 0.47-10 FZ
C403	87-012-358-080		C-CAP,S 0.47-10 FZ
C404	87-010-198-080		CAP,CHIP 0.022
C405	87-010-196-080		CHIP CAPACITOR,0.1-25
C406	87-010-196-080		CHIP CAPACITOR,0.1-25
C407	87-012-358-080		C-CAP,S 0.47-10 FZ
C408	87-012-358-080		C-CAP,S 0.47-10 FZ
C409	87-010-805-080		C-CAP,S 1-16 ZF
C410	87-010-805-080		C-CAP,S 1-16 ZF
C451	87-012-358-080		C-CAP,S 0.47-10 FZ
C452	87-012-358-080		C-CAP,S 0.47-10 FZ
C453	87-012-358-080		C-CAP,S 0.47-10 FZ
C454	87-010-197-080		CAP,CHIP 0.01 DM
C501	87-012-358-080		C-CAP,S 0.47-10 FZ

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
C502	87-012-358-080		C-CAP,S 0.47-10 FZ
C503	87-012-358-080		C-CAP,S 0.47-10 FZ
C504	87-012-358-080		C-CAP,S 0.47-10 FZ
C505	87-010-178-080		CHIP CAP,1000P
C506	87-010-178-080		CHIP CAP,1000P
C507	87-010-178-080		CHIP CAP,1000P
C508	87-010-178-080		CHIP CAP,1000P
C509	87-010-805-080		CAP,S 1-16
C510	87-010-498-040		CAP,E 10-16 GAS
C511	87-012-368-080		C-CAP,S 0.1-50 ZF
C512	87-012-368-080		C-CAP,S 0.1-50 ZF
C513	87-012-368-080		C-CAP,S 0.1-50 ZF
C514	87-012-368-080		C-CAP,S 0.1-50 ZF
C519	87-A11-062-080		C-CAP,S 2.2-16 ZF
C520	87-A11-062-080		C-CAP,S 2.2-16 ZF
C801	8A-KC7-623-000		CAP,E 2200U-16 BT(125C)
C901	87-016-039-090		CAP,DL 0.022F-5.5 Z 70 FM
C902	87-012-358-080		C-CAP,S 0.47-10 FZ
C903	87-010-196-080		CHIP CAPACITOR,0.1-25
C904	87-010-315-080		C-CAP,S 27P-50 CH
C905	87-010-314-080		C-CAP,S 22P-50V
C906	87-010-196-080		CHIP CAPACITOR,0.1-25
C907	87-010-178-080		CHIP CAP,1000P
C908	87-010-178-080		CHIP CAP,1000P
C909	87-010-198-080		CAP,CHIP 0.022
C910	87-010-322-080		C-CAP,S 100P-50 CH
C911	87-010-322-080		C-CAP,S 100P-50 CH
C912	87-010-198-080		CAP,CHIP 0.022
C914	87-010-198-080		CAP,CHIP 0.022
C916	87-010-198-080		CAP,CHIP 0.022
CON401	87-A61-219-010		CONN,20P H 52089-2020
CON402	88-KTA-603-010		CONN,15P CAM-B68
CON851	8Z-KT1-611-010		CONN,16P CAM-B51
D909	87-027-262-010		LED,TLR-124(RED)
⚠ F251	8Z-KC1-621-010		FUSE,15A 32V
FFC401	88-KC4-641-010		FF-CABLE,20P 1.0 90MM
J401	87-A61-224-010		JACK,PIN 4P XR-401
J402	8A-KC7-620-010		JACK,DIN 13 P SKDS1302
L101	87-003-143-080		COIL,4.7UH
L102	8Z-KT1-619-010		COIL,68MH K7-D
L201	87-003-149-080		COIL,47UH
L202	87-003-102-080		COIL,10UH
L301	87-003-102-080		COIL,10UH
L401	87-003-102-080		COIL,10UH
L402	87-003-102-080		COIL,10UH
L851	8Z-KT1-615-010		FLTR,AMORPHOUS-CHOKE
S901	87-A91-070-010		SW,TACT SKHHLV
SW903	87-A91-152-010		SW,SL 1-1-2 SSSS212-11-A
TU101	8A-KC8-621-010		TU UNIT,FAE347-A12
X901	87-A70-175-010		VIB,XTAL 4.5MHZ AT-49

FRONT C.B

C951	87-012-358-080		C-CAP,S 0.47-10 FZ
C952	87-012-358-080		C-CAP,S 0.47-10 FZ
C953	87-010-176-080		C-CAP,S 680P-50 SL
C954	87-010-194-080		CAP,CHIP 0.047
C955	87-010-194-080		CAP,CHIP 0.047
C956	87-010-194-080		CAP,CHIP 0.047
C957	87-012-358-080		C-CAP,S 0.47-10 FZ<507M>
C958	87-010-197-080		CAP,CHIP 0.01 DM
C959	87-010-197-080		CAP,CHIP 0.01 DM
C960	87-010-194-080		CAP,CHIP 0.047
CON951	88-KTA-602-010		CONN,15P CAM-B67
L951	87-005-906-080		C-COIL,S 10.0UHK
L952	87-005-906-080		C-COIL,S 10.0UHK
L953	87-005-906-080		C-COIL,S 10.0UHK
LCD951	8A-KCF-610-010		LCD,AKC-15(3 COLOR)
LED951	87-017-827-070		C-LED,SEC1201C RED
LED952	87-017-827-070		C-LED,SEC1201C RED
LED953	87-017-827-070		C-LED,SEC1201C RED
LED954	87-A40-813-040		C-LED,SEC1E01C BLUE
LED955	87-A40-813-040		C-LED,SEC1E01C BLUE
LED956	87-A40-813-040		C-LED,SEC1E01C BLUE
PL951	8Z-KT1-641-010		LAMP,T-3
PL952	8Z-KT1-641-010		LAMP,T-3
S951	87-036-251-080		SW,TACT SKQCAE
S952	87-036-251-080		SW,TACT SKQCAE
S953	87-036-251-080		SW,TACT SKQCAE
S954	87-A90-001-080		C-SW,TACT SKQMAL
S955	87-036-251-080		SW,TACT SKQCAE
S956	87-036-251-080		SW,TACT SKQCAE
S957	87-036-251-080		SW,TACT SKQCAE
S958	87-A90-001-080		C-SW,TACT SKQMAL
S959	87-A90-001-080		C-SW,TACT SKQMAL
S960	87-A90-001-080		C-SW,TACT SKQMAL
S961	87-036-251-080		SW,TACT SKQCAE
S962	87-036-251-080		SW,TACT SKQCAE
S963	87-036-251-080		SW,TACT SKQCAE
S964	87-036-251-080		SW,TACT SKQCAE
S965	87-036-251-080		SW,TACT SKQCAE
S966	87-036-251-080		SW,TACT SKQCAE
S967	87-A91-597-010		SW,RTRY SIM-026MT

JACK AUX C.B

FC951	8A-KC7-611-010		F-CABLE,3P(AUX)
J951	85-HRL-623-010		JACK,3.5 ST BLK

CD C.B

C803	87-A10-711-080		C-CAP,E 100-6.3 M MF
C804	87-010-178-080		CHIP CAP,1000P
C805	87-016-669-080		C-CAP,S 0.1-25 K B
C806	87-010-184-080		CHIP CAPACITOR,3300P(K)
C808	87-016-669-080		C-CAP,S 0.1-25 K B
C809	87-010-880-080		C-CAP,E 47-6.3 MF
C811	87-016-669-080		C-CAP,S 0.1-25 K B
C813	87-016-669-080		C-CAP,S 0.1-25 K B
C816	87-010-880-080		C-CAP,E 47-6.3 MF
C831	87-012-156-080		C-CAP,S 220P-50 CH
C832	87-010-194-080		CAP,CHIP 0.047
C833	87-012-156-080		C-CAP,S 220P-50 CH
C834	87-012-156-080		C-CAP,S 220P-50 CH
C835	87-016-669-080		C-CAP,S 0.1-25 K B
C836	87-012-156-080		C-CAP,S 220P-50 CH
C837	87-010-186-080		CHIP CAPACITOR,4700P(K)
C838	87-010-194-080		CAP,CHIP 0.047
C839	87-010-880-080		C-CAP,E 47-6.3 MF
C840	87-016-669-080		C-CAP,S 0.1-25 K B
C841	87-016-669-080		C-CAP,S 0.1-25 K B
C842	87-016-526-080		C-CAP,S 0.47-16 BK
C843	87-012-155-080		C-CAP,180P-50CH
C844	87-012-155-080		C-CAP,180P-50CH
C845	87-010-177-080		C-CAP,S 820P-50 SL
C846	87-010-177-080		C-CAP,S 820P-50 SL
C847	87-010-885-080		C-CAP,E 22-10 MF
C848	87-010-885-080		C-CAP,E 22-10 MF
C849	87-010-318-080		C-CAP,S 47P-50 CH
C850	87-010-318-080		C-CAP,S 47P-50 CH
C851	87-A12-034-080		C-CAP,E 2.2-35 M MF
C852	87-A12-034-080		C-CAP,E 2.2-35 M MF
C853	87-010-178-080		CHIP CAP,1000P
C854	87-010-178-080		CHIP CAP,1000P
C855	87-A10-473-080		C-CAP,E 47-10 MF10FC(M)
C856	87-016-669-080		C-CAP,S 0.1-25 K B
C857	87-010-880-080		C-CAP,E 47-6.3 MF
C861	87-016-669-080		C-CAP,S 0.1-25 K B
C862	87-016-669-080		C-CAP,S 0.1-25 K B
C863	87-010-880-080		C-CAP,E 47-6.3 MF

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
C881	87-A10-473-080		C-CAP,E 47-10 MF10FC(M)
C882	87-016-669-080		C-CAP,S 0.1-25 K B
C883	87-016-669-080		C-CAP,S 0.1-25 K B
C884	87-010-178-080		CHIP CAP,1000P
C885	87-A10-473-080		C-CAP,E 47-10 MF10FC(M)
C886	87-016-669-080		C-CAP,S 0.1-25 K B
C887	87-016-669-080		C-CAP,S 0.1-25 K B
C888	87-016-669-080		C-CAP,S 0.1-25 K B
C889	87-A10-473-080		C-CAP,E 47-10 MF10FC(M)
C891	87-012-156-080		C-CAP,S 220P-50 CH
C892	87-012-156-080		C-CAP,S 220P-50 CH
C893	87-012-156-080		C-CAP,S 220P-50 CH
C894	87-012-156-080		C-CAP,S 220P-50 CH
C895	87-012-156-080		C-CAP,S 220P-50 CH
C896	87-012-156-080		C-CAP,S 220P-50 CH
C897	87-012-156-080		C-CAP,S 220P-50 CH
CN801	87-A61-125-080		C-CONN,16P H FLZ-SM1-TB
CN891	87-A61-220-080		C-CONN,20P H 52271-2090
L801	87-A50-536-080		C-COIL,10UH K LQH3C24
L802	87-A50-536-080		C-COIL,10UH K LQH3C24

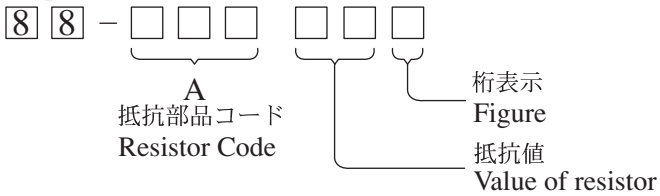
REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
L831	87-A50-536-080		C-COIL,10UH K LQH3C24
L832	87-A50-536-080		C-COIL,10UH K LQH3C24
L833	87-A50-536-080		C-COIL,10UH K LQH3C24
L861	87-A50-536-080		C-COIL,10UH K LQH3C24
L881	87-A50-536-080		C-COIL,10UH K LQH3C24
S861	87-A91-627-080		SW,PUSH MPU10372MLBO
X831	87-A70-262-080		C-VIB,16.93MHZ CSTCW
X861	87-A70-251-080		C-VIB,CER 10.00MHZ CSTCC

SENSOR C.B

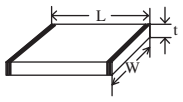
SW1	87-A91-627-080		SWITCH
SW2	87-A91-627-080		SWITCH

○チップ抵抗部品コード／CHIP RESISTOR PART CODE

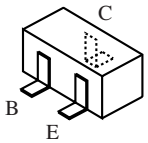
チップ抵抗部品コードの成り立ち
Chip Resistor Part Coding



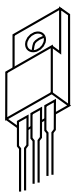
チップ抵抗
Chip resistor

容量 Wattage	種類 Type	許容誤差 Tolerance	記号 Symbol	寸法／Dimensions (mm) 外形／Form	L	W	t	抵抗コード ：A Resistor Code ：A
1/16W	1005	± 5%	CJ		1.0	0.5	0.35	104
1/16W	1608	± 5%	CJ		1.6	0.8	0.45	108
1/10W	2125	± 5%	CJ		2	1.25	0.45	118
1/8W	3216	± 5%	CJ		3.2	1.6	0.55	128

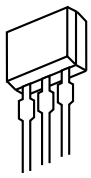
TRANSISTOR ILLUSTRATION



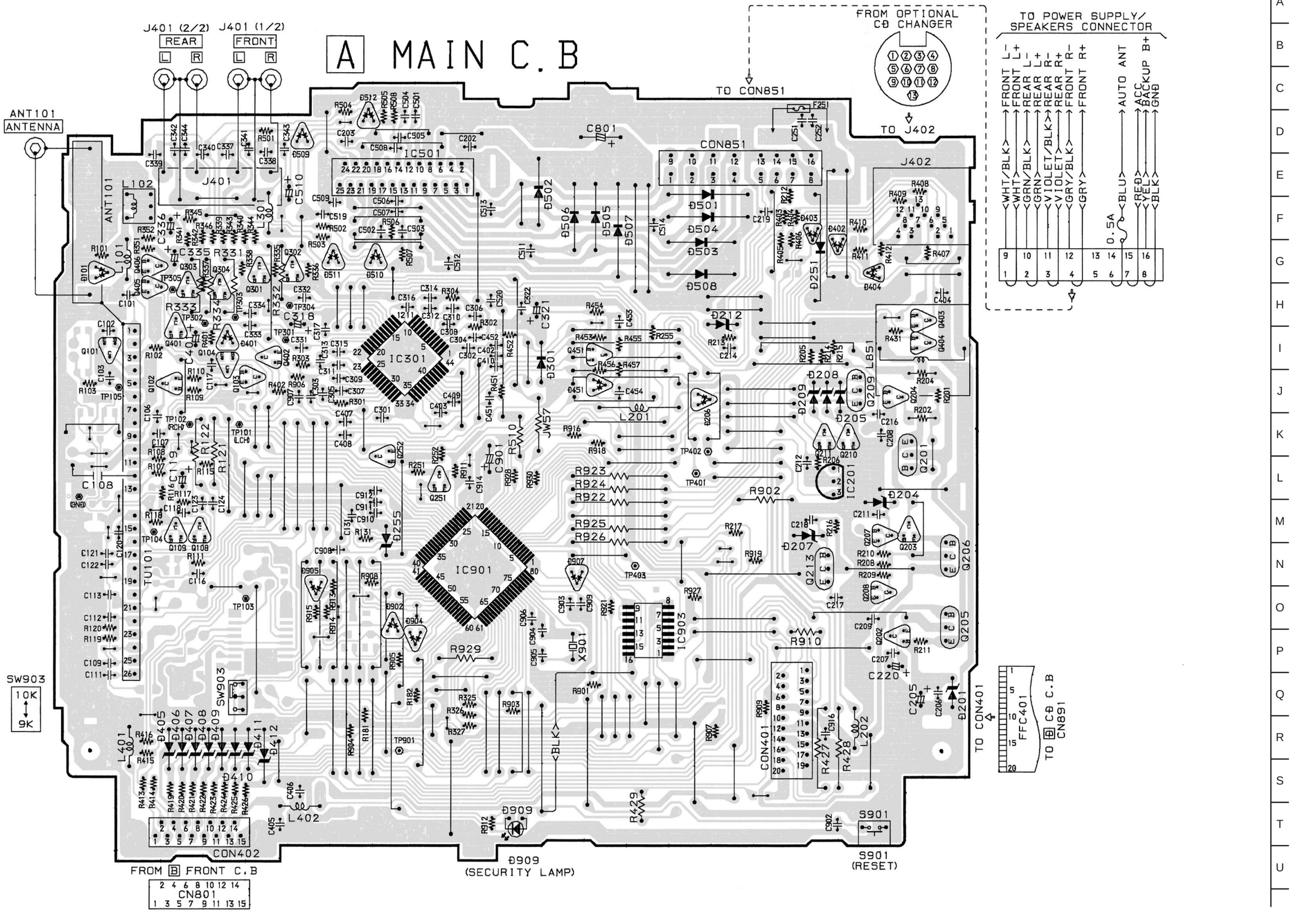
2SA1037 DTA114YKA
2SA1362 DTB113ZK
2SB1197 DTC114TKA
2SC2412 DTC124EKA
DTC144EK



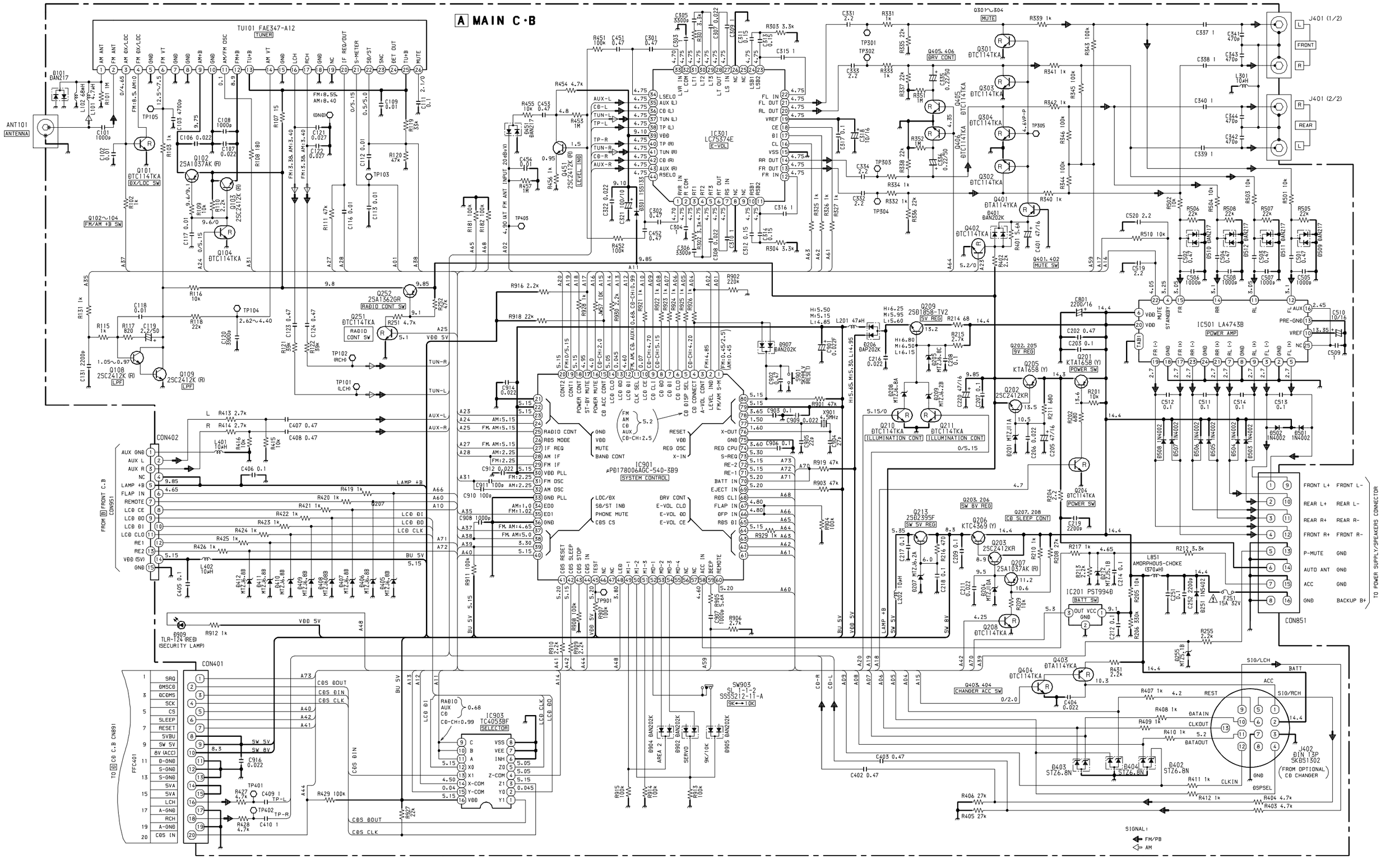
B C E
2SD2395
KTA1658
KTC4369

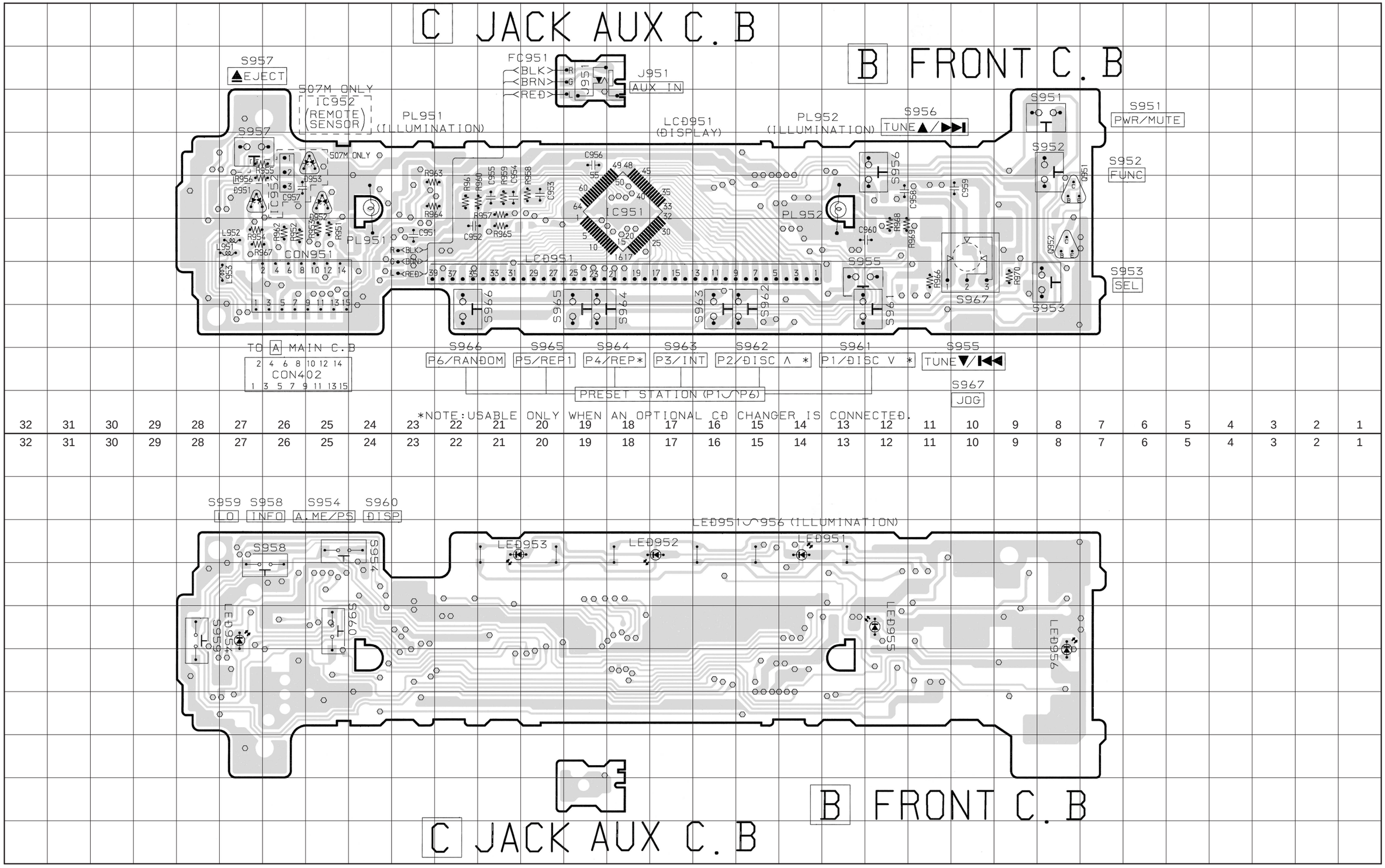


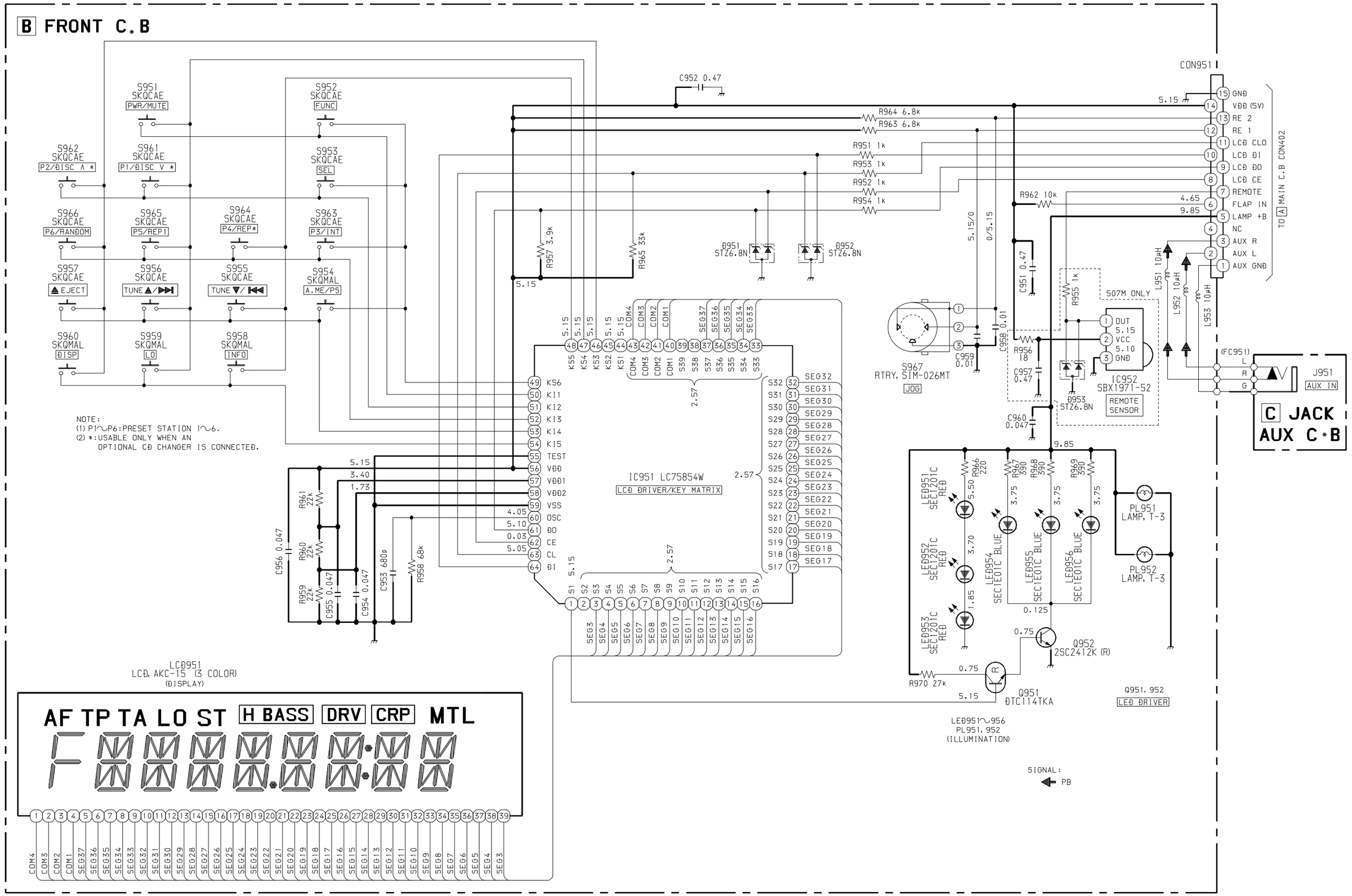
E C B
2SD1858


A MAIN C.B
J401 (2/2) REAR L R
J401 (1/2) FRONT L R
ANT101 ANTENNA
TO CON851
FROM OPTIONAL CD CHANGER
TO J402
TO POWER SUPPLY/ SPEAKERS CONNECTOR
FRONT L-
FRONT L+
REAR L-
REAR L+
REAR R-
REAR R+
FRONT R-
FRONT R+
AUTO ANT
ACC
BACKUP B+
GND
0.5A
WHT/BLK
WHT
GRN/BLK
GRN
VIOLET/BLK
VIOLET
GRY/BLK
GRY
BLU
RED
YEL
BLK
CON851
J402
IC501
IC301
IC901
IC903
IC201
TU101
L851
SW903
10K
9K
CON402
FROM B FRONT C.B
CN801
D909
(SECURITY LAMP)
S901
(RESET)
CON401
TO CON401
TO B CD C.B
CN891
FFC401
<BLK>

SCHEMATIC DIAGRAM – 1 (MAIN)




C JACK AUX C.B
B FRONT C.B
S957
EJECT
507M ONLY
IC952
(REMOTE SENSOR)
PL951
(ILLUMINATION)
FC951
<BLK>
<BRN>
<RED>
J951
AUX IN
LCD951
(DISPLAY)
PL952
(ILLUMINATION)
S956
TUNE▲/▶▶|
S951
PWR/MUTE
S952
FUNC
S953
SEL
IC951
CON951
LCD951
S966
P6/RANDOM
S965
P5/REP1
S964
P4/REP*
S963
P3/INT
S962
P2/DISC ∧ *
S961
P1/DISC V *
S955
TUNE▼/|◀◀
S967
JOG
TO A MAIN C.B
CON402
PRESET STATION (P1~P6)
*NOTE:USABLE ONLY WHEN AN OPTIONAL CD CHANGER IS CONNECTED.
S959
LO
S958
INFO
S954
A.ME/PS
S960
DISP
LED951~956 (ILLUMINATION)
LED953
LED952
LED951
LED954
LED955
LED956


B FRONT C.B
S951 SKQCAE PWR/MUTE
S952 SKQCAE FUNC
S962 SKQCAE P2/DISC ∧ *
S961 SKQCAE P1/DISC ∨ *
S953 SKQCAE SEL
S966 SKQCAE P6/RANDOM
S965 SKQCAE P5/REP1
S964 SKQCAE P4/REP*
S963 SKQCAE P3/INT
S957 SKQCAE EJECT
S956 SKQCAE TUNE ▲/▶▶|
S955 SKQCAE TUNE ▼/ |◀◀
S954 SKQMAL A.ME/PS
S960 SKQMAL DISP
S959 SKQMAL LO
S958 SKQMAL INFO
NOTE:
(1) P1∼P6:PRESET STATION 1∼6.
(2) *:USABLE ONLY WHEN AN OPTIONAL CD CHANGER IS CONNECTED.
C952 0.47
R964 6.8k
R963 6.8k
R951 1k
R953 1k
R952 1k
R954 1k
R957 3.9k
R965 33k
D951 STZ6.8N
D952 STZ6.8N
5.15
5.15/0
0/5.15
R962 10k
C951 0.47
R955 1k
507M ONLY
L951 10µH
L952 10µH
L953 10µH
C958 0.01
C959 0.01
S967 RTRY, SIM-026MT
JOG
R956 18
C957 0.47
D953 STZ6.8N
IC952 SBX1971-52
REMOTE SENSOR
C960 0.047
9.85
CON951
15 GND
14 VDD (5V)
13 RE 2
12 RE 1
11 LCD CLO
10 LCD DI
9 LCD DO
8 LCD CE
7 REMOTE
6 FLAP IN
5 LAMP +B
4 NC
3 AUX R
2 AUX L
1 AUX GND
4.65
9.85
TO A MAIN C.B CON402
(FC951) L R G
J951 AUX IN
C JACK AUX C·B
IC951 LC75854W
LCD DRIVER/KEY MATRIX
KS6 KI1 KI2 KI3 KI4 KI5 TEST VDD VDD1 VDD2 VSS OSC DO CE CL DI
R961 22k
R960 22k
R959 22k
C956 0.047
C955 0.047
C954 0.047
C953 680p
R958 68k
5.15
3.40
1.73
4.05
5.10
0.03
5.05
2.57
COM4 COM3 COM2 COM1 SEG37 SEG36 SEG35 SEG34 SEG33
SEG32 SEG31 SEG30 SEG29 SEG28 SEG27 SEG26 SEG25 SEG24 SEG23 SEG22 SEG21 SEG20 SEG19 SEG18 SEG17
S1 S2 S3 S4 S5 S6 S7 S8 S9 S10 S11 S12 S13 S14 S15 S16
SEG3 SEG4 SEG5 SEG6 SEG7 SEG8 SEG9 SEG10 SEG11 SEG12 SEG13 SEG14 SEG15 SEG16
LED951 SEC1201C RED
LED952 SEC1201C RED
LED953 SEC1201C RED
LED954 SEC1E01C BLUE
LED955 SEC1E01C BLUE
LED956 SEC1E01C BLUE
R966 220
R967 390
R968 390
R969 390
5.50
3.75
3.70
1.85
0.125
PL951 LAMP, T-3
PL952 LAMP, T-3
Q952 2SC2412K (R)
0.75
R970 27k
Q951 DTC114TKA
Q951, 952 LED DRIVER
LED951∼956 PL951, 952 (ILLUMINATION)
LCD951 LCD, AKC-15 (3 COLOR) (DISPLAY)
AF TP TA LO ST H BASS DRV CRP MTL
COM4 COM3 COM2 COM1 SEG37 SEG36 SEG35 SEG34 SEG33 SEG32 SEG31 SEG30 SEG29 SEG28 SEG27 SEG26 SEG25 SEG24 SEG23 SEG22 SEG21 SEG20 SEG19 SEG18 SEG17 SEG16 SEG15 SEG14 SEG13 SEG12 SEG11 SEG10 SEG9 SEG8 SEG7 SEG6 SEG5 SEG4 SEG3
SIGNAL: PB

Ð CÐ C.B

S861
(CHUCK SW)

FROM A MAIN C.B CON401

FFC401

CN891

IC861

IC832

IC831

IC881

IC801

M2
(LOADING
MOTOR)

M3
(SPINDLE
MOTOR)

M1
(SLED
MOTOR)

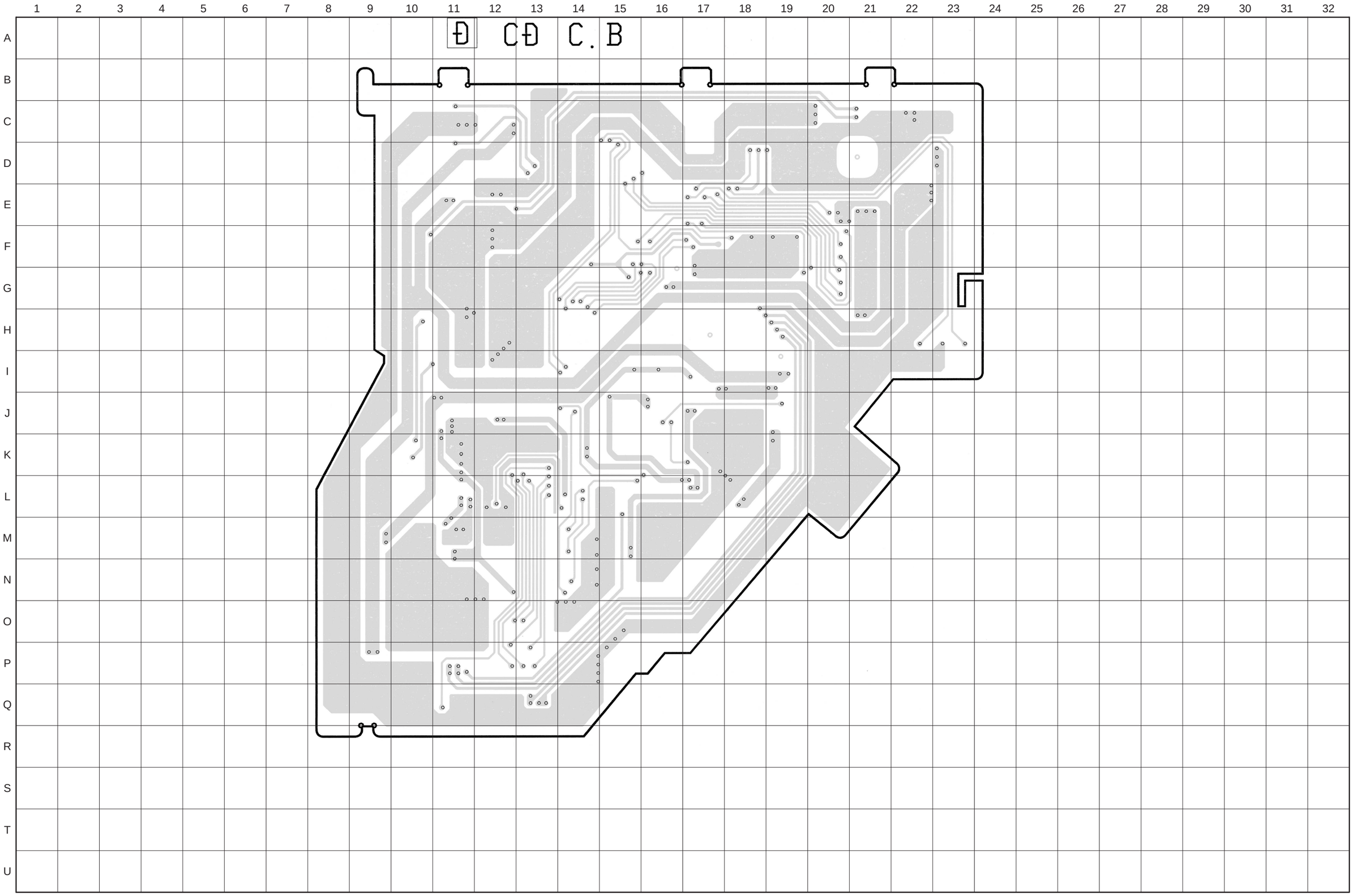
E SENSOR
C.B

SW2
(8/12 SW)

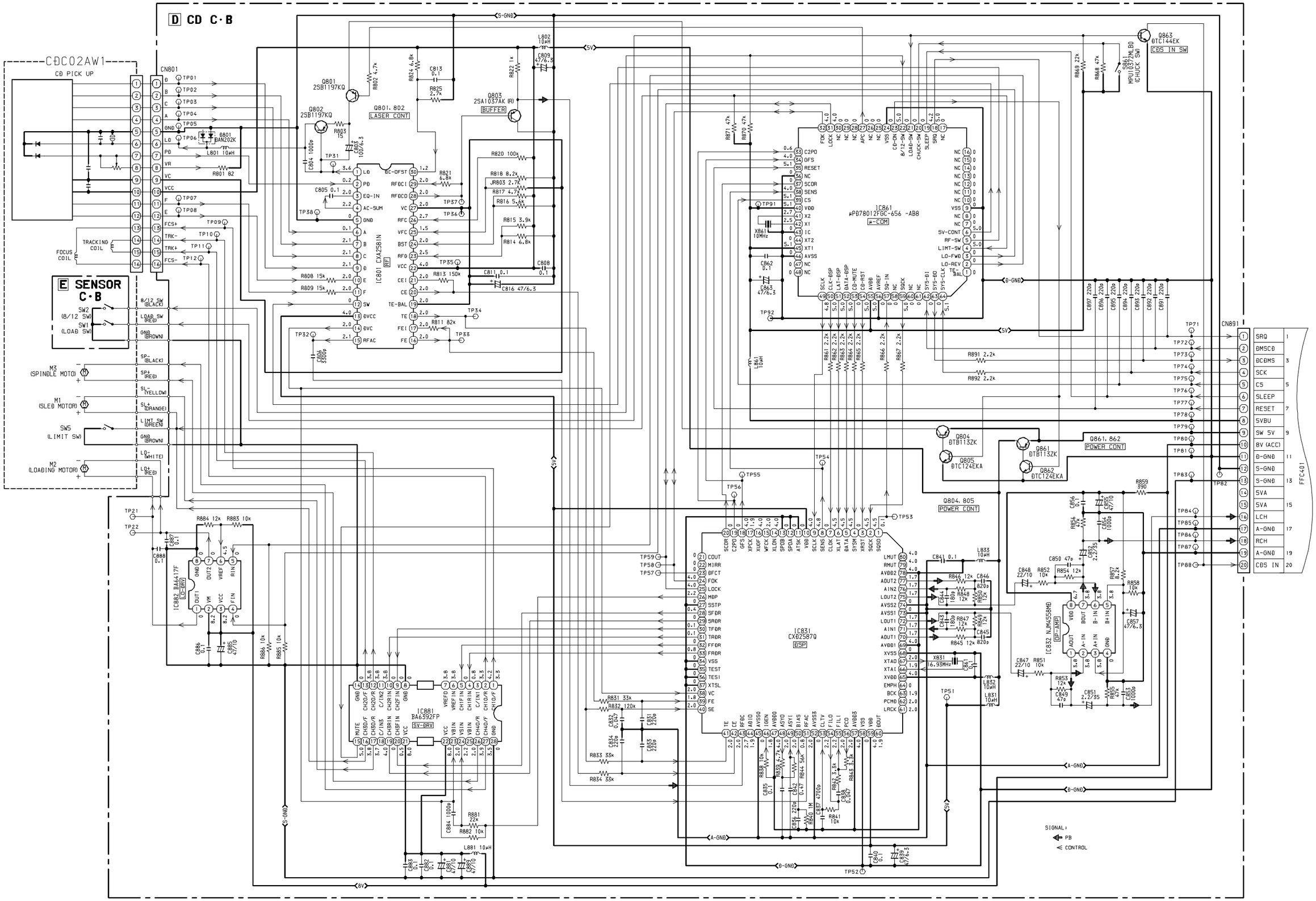
SW1
(LOADÐ SW)

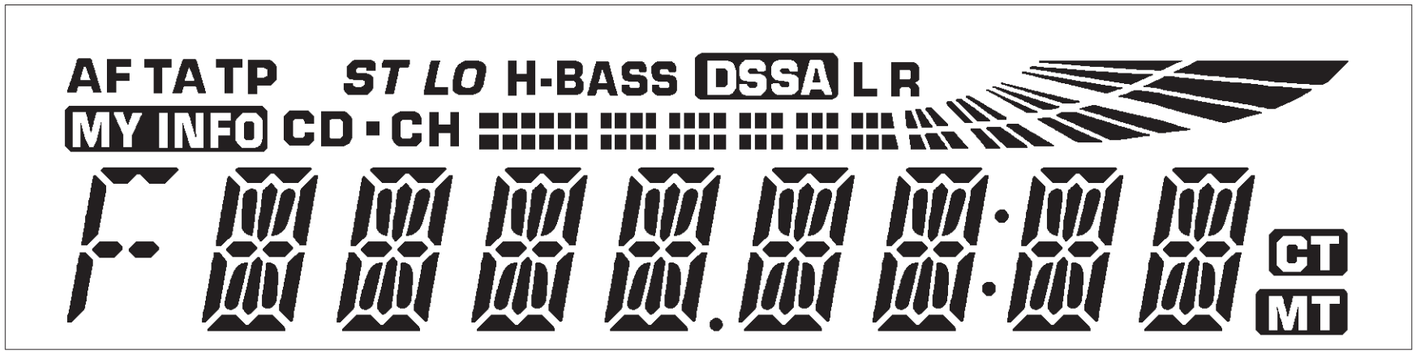
SW5
(LIMIT SW)

CÐ PICK UP


Đ CĐ C.B

SCHEMATIC DIAGRAM – 3 (CD / SENSOR)





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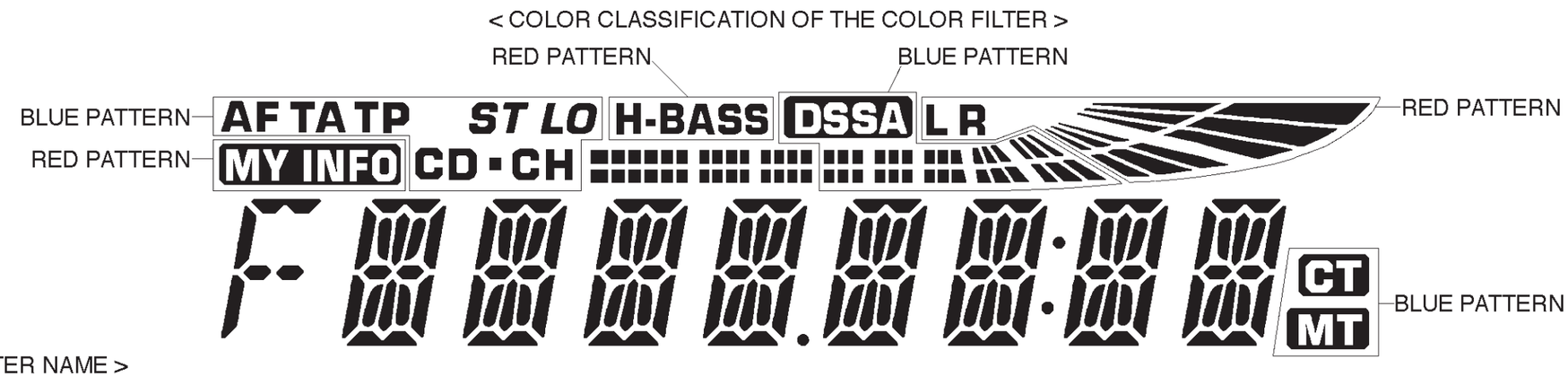

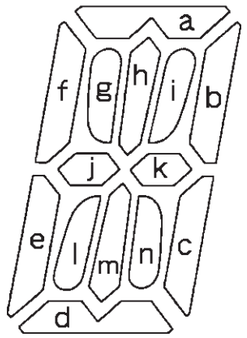

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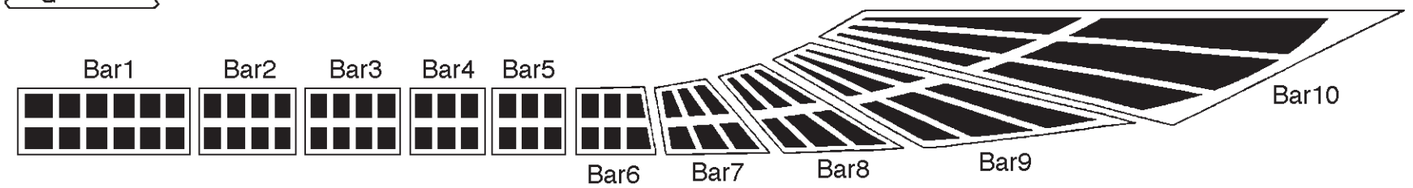
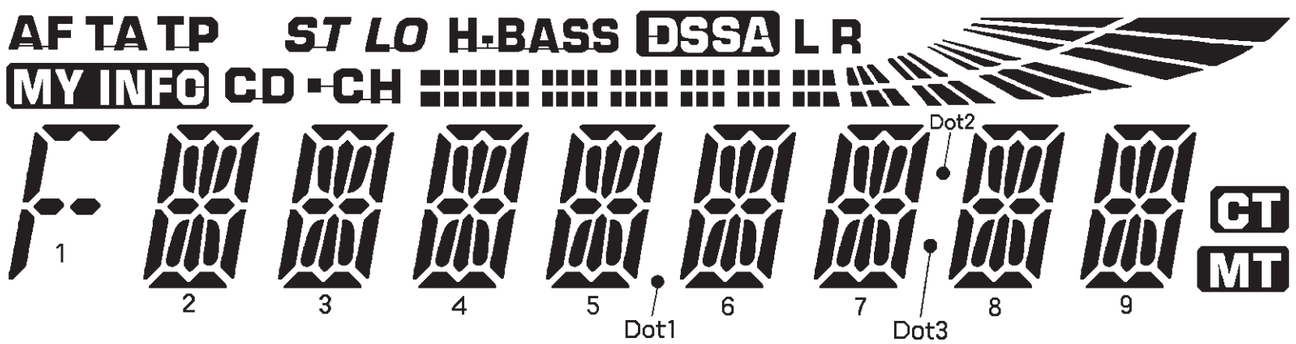




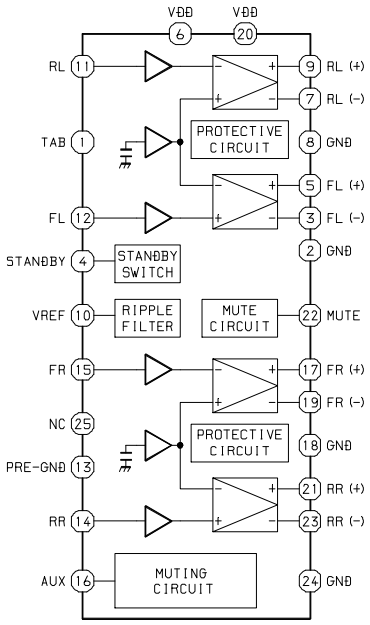
No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
COM1	– –	– –	– –	COM1	Bar8	Bar7	TP	2d	2m	2n	CD	3d	3m	3n	Bar1
COM2	– –	– –	COM2	– –	H-BASS	LO	ST	2e	2l	2k	2c	3e	3l	3k	3c
COM3	– –	COM3	– –	– –	R	L	DSSA	2f	2j	2i	2b	3f	3j	3i	3b
COM4	COM4	– –	– –	– –	AF	TA	MY INFO	1a,e,f,j,k	2g	2h	2a	–CH	3g	3h	3a

No.	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
COM1	4d	4m	4n	Bar3	5d	5m	5n	Dot1	6d	6m	6n	Bar6	7d	7m	7n
COM2	4e	4l	4k	4c	5e	5l	5k	5c	6e	6l	6k	6c	7e	7l	7k
COM3	4f	4j	4i	4b	5f	5j	5i	5b	6f	6j	6i	6b	7f	7j	7i
COM4	Bar2	4g	4h	4a	Bar4	5g	5h	5a	Bar5	6g	6h	6a	Dot2	7g	7h

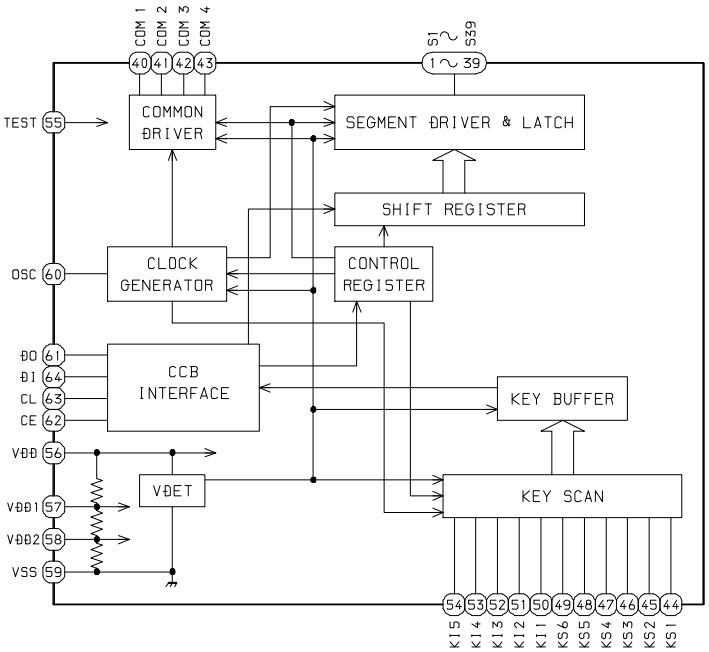
No.	31	32	33	34	35	36	37	38	39
COM1	Dot3	8d	8m	8n	Bar10	9d	9m	9n	MT
COM2	7c	8e	8l	8k	8c	9e	9l	9k	9c
COM3	7b	8f	8j	8i	8b	9f	9j	9i	9b
COM4	7a	Bar9	8g	8h	8a	CT	9g	9h	9a

IC BLOCK DIAGRAM

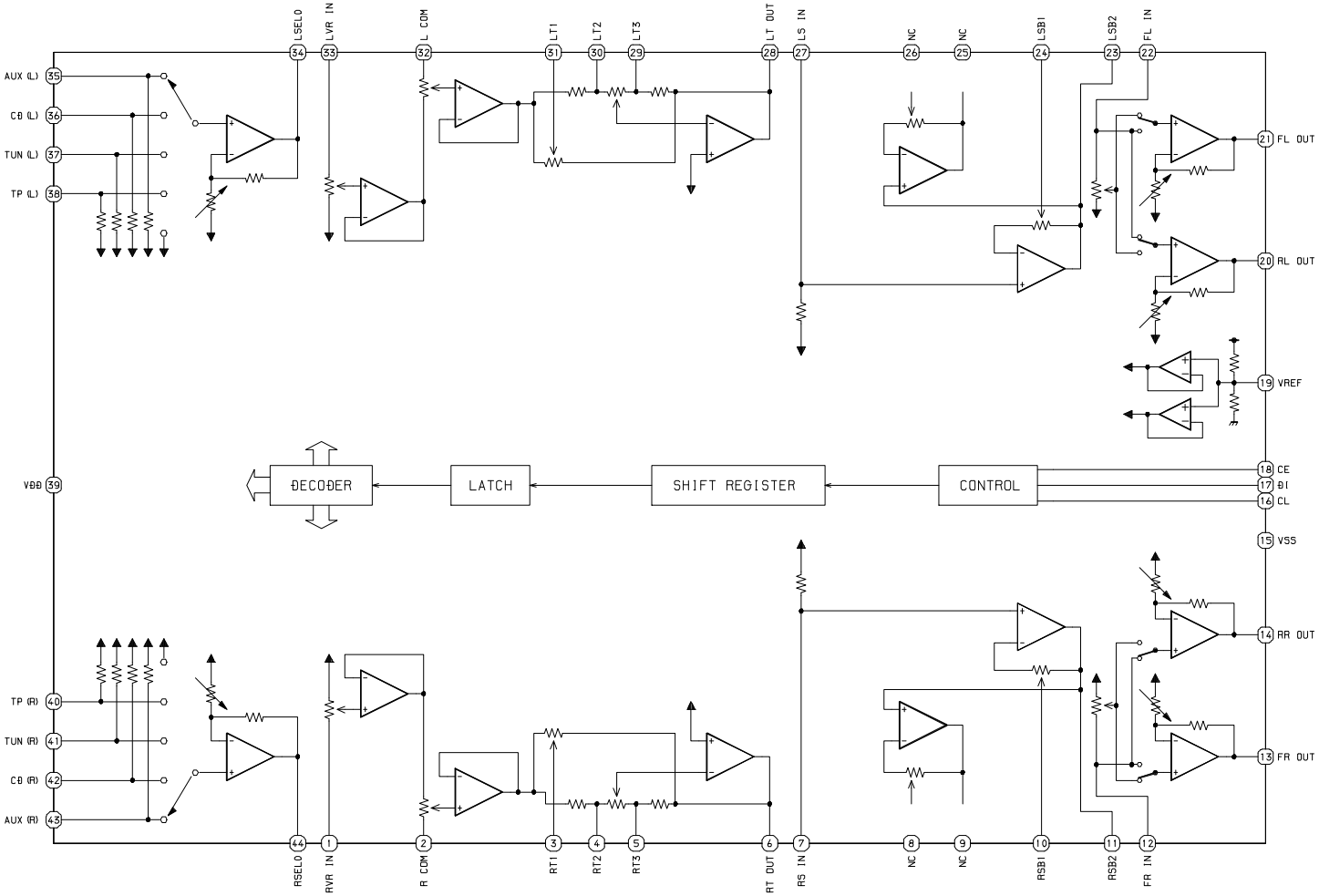
IC, LA4743B



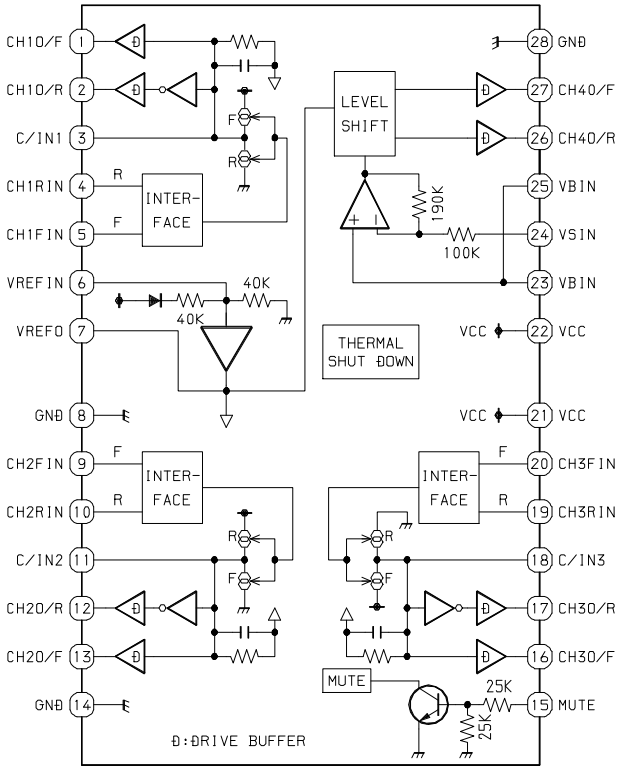
IC, LC75854W



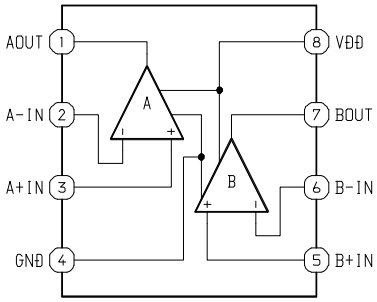
IC, LC75374E



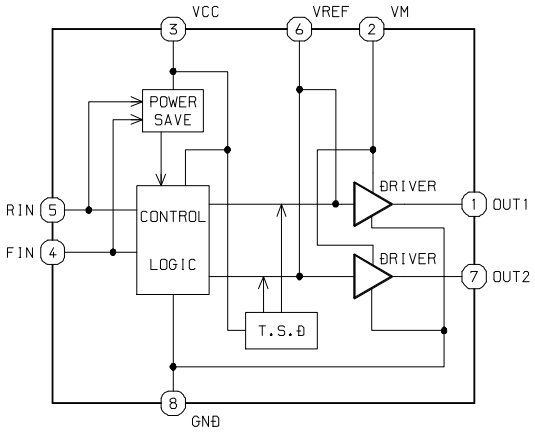
IC, BA6392FP



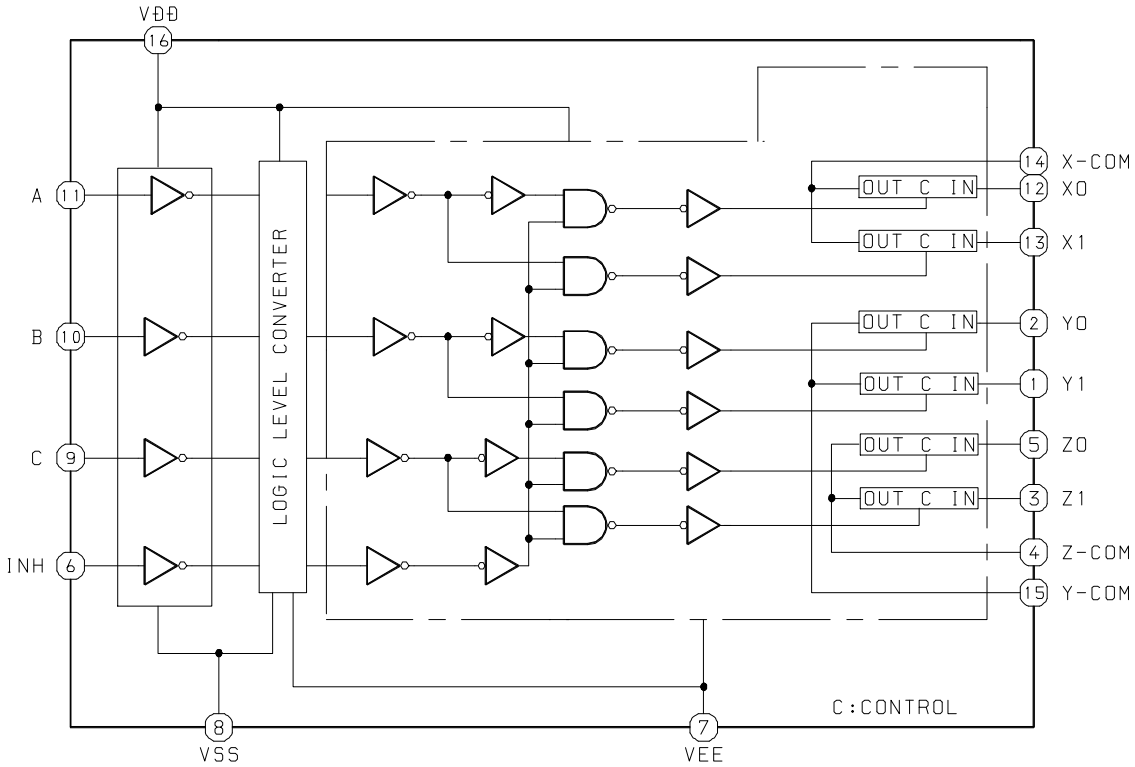
IC, NJM4558MD



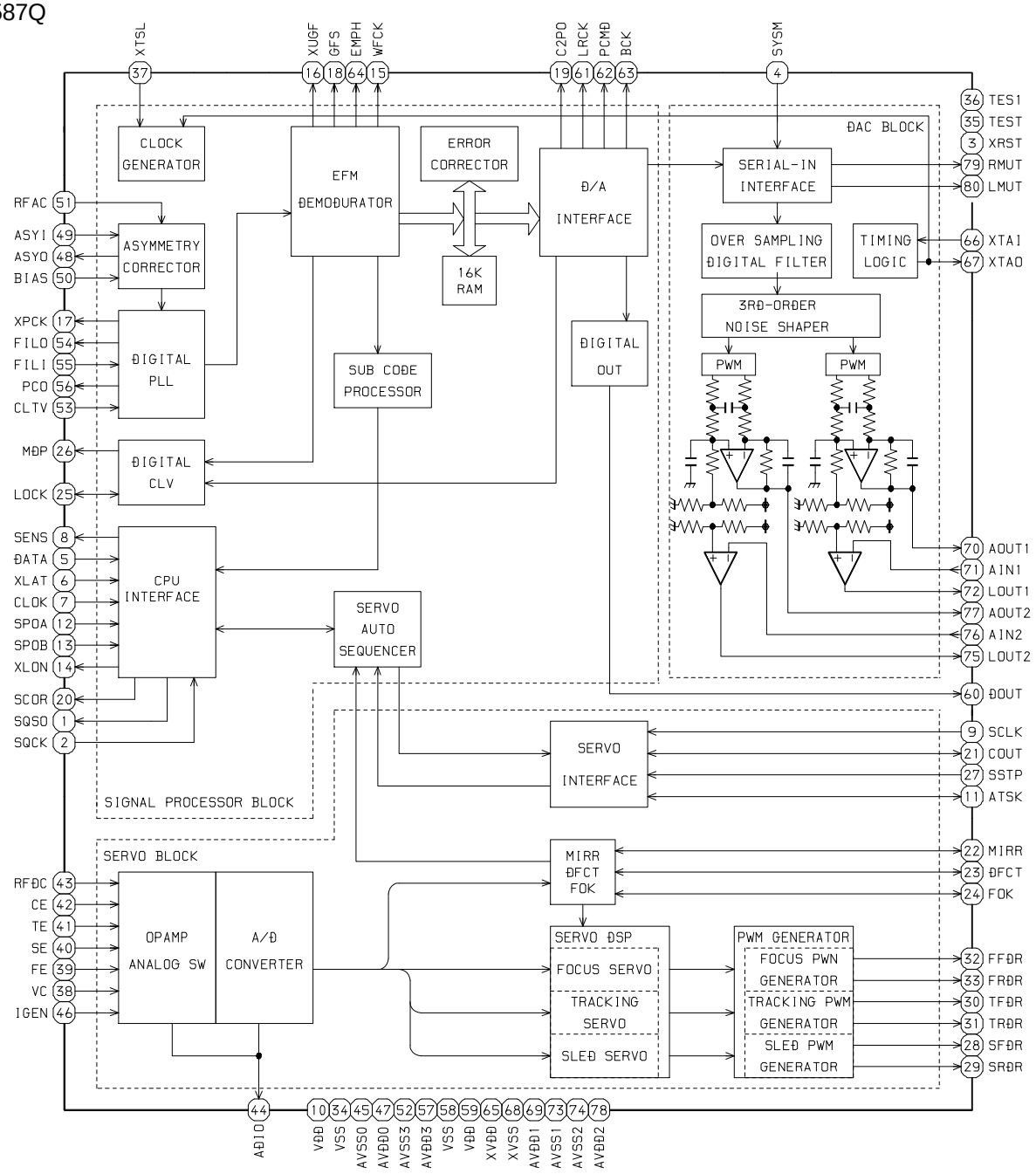
IC, BA6417F



IC, TC4053BF



IC, CXD2587Q


XTSL
37
XUGF
16
GFS
18
EMPH
64
WFCK
15
C2PO
19
LRCK
61
PCMD
62
BCK
63
SYSM
4
CLOCK GENERATOR
EFM DEMODURATOR
ERROR CORRECTOR
16K RAM
D/A INTERFACE
DAC BLOCK
SERIAL-IN INTERFACE
OVER SAMPLING DIGITAL FILTER
TIMING LOGIC
3RD-ORDER NOISE SHAPER
PWM
PWM
ASYMMETRY CORRECTOR
DIGITAL PLL
SUB CODE PROCESSOR
DIGITAL OUT
DIGITAL CLV
CPU INTERFACE
SERVO AUTO SEQUENCER
SERVO INTERFACE
SIGNAL PROCESSOR BLOCK
SERVO BLOCK
MIRR DFCT FOK
SERVO DSP
FOCUS SERVO
TRACKING SERVO
SLED SERVO
PWM GENERATOR
FOCUS PWN GENERATOR
TRACKING PWM GENERATOR
SLED PWM GENERATOR
OPAMP ANALOG SW
A/D CONVERTER
RFAC 51
ASYI 49
ASYO 48
BIAS 50
XPCK 17
FILO 54
FILI 55
PCO 56
CLTV 53
MDP 26
LOCK 25
SENS 8
DATA 5
XLAT 6
CLOK 7
SPOA 12
SPOB 13
XLON 14
SCOR 20
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RFDC 43
CE 42
TE 41
SE 40
FE 39
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IGEN 46
ADIO 44
VDD 10
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AVDD3 57
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SCLK 9
COUT 21
SSTP 27
ATSK 11
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DFCT 23
FOK 24
FFDR 32
FRDR 33
TFDR 30
TRDR 31
SFDR 28
SRDR 29

IC DESCRIPTION

IC, µPD178006AGC–540–3B9

Pin No.	Pin Name	I/O	Description
1	FM/AM S-M	I	Input RDS AF IN signal and FM/AM S meter signal.
2	LEVEL IND	I	Input level indicator signal.
3	A-VOL CONT	I	Detect mic input and operate auto volume. (Not used)
4	CD CONNECT	I	Connectivity check to CD changer.
5	CD DISP SEL	O	Communication timing signal output to CD changer ("H" = TX, "L" = RX).
6	CD CLO	O	Output synchronous clock signal for sending to CD changer.
7	CD DI	I	Input data signal for receiving from CD changer.
8	CD DO	O	Output data signal for sending to CD changer.
9	CD CLI	I	Input synchronous clock signal for receiving from CD changer.
10	LCD CE	O	LCD driver (LC75854W) : Output CE signal.
11	CLK SEL	O	CLock selection for CDS and LCD driver (LC75854W) ("H" = CDS, "L" = LCD).
12	LCD DI	I/O	LCD driver (LC75854W) : Input data signal.
13	LCD DO	O	LCD driver (LC75854W) : Output data signal.
14	LCD CLO	O	LCD driver (LC75854W) : Output synchronous clock signal.
15	CD ACC CONT	O	Output CD changer ACC signal.
16	POWER MUTE	O	Output POWER MUTE signal.
17	ST-BY MUTE	O	Output STANDBY MUTE signal.
18	POWER CONT	O	Output POWER CONTROL signal.
19	CONT1	O	LCD driver contrast controller 1.
20	CONT2	O	LCD driver contrast controller 2.
21	GND	–	GND.
22	VDD	–	Power supply.
23	MUTE	O	Output audio mute.
24	BAND CONT	O	Output AM/FM power supply switching ("H" = AM, "L" = FM).
25	RADIO CONT	O	Output radio power switching ("L" = Radio mode).
26	RDS MODE	O	Output "H" when RDS AF mode. (Not used)
27	IF REQ	O	Output request for IF count signal.
28	AM IF	I	Input AM IF count signal.
29	FM IF	I	Input FM IF count signal.
30	VDD PLL	–	Power supply for PLL.
31	FM OSC	I	Input FM local oscillation.
32	AM OSC	I	Input AM local oscillation.
33	GND PLL	–	Connected to GND for PLL.
34	EO0	O	Output error from charge pump. (Not used)
35	EO1	O	Output error from charge pump.
36	GND	–	GND.
37	LOC/DX	O	Output LOC/DX switching when seeking radio broadcast ("H" = LOC, "L" = DX).
38	SD/ST IND	I	Input stereo signal. Enable when receiving FM broadcast ("H" = MONO, "L" = ST)/ Input FM/AM broadcast detection signal when seeking ("H" = Detect broadcast).
39	PHONE MUTE	I	External mute control.
40	CDS CS	O	CDS : Output CS signal.

Pin No.	Pin Name	I/O	Description
41	CDS RESET	O	CDS : Output reset signal.
42	CDS SLEEP	O	CDS : Output sleep signal.
43	CDS STOP	I	CDS : Input stop signal.
44	CDS IN	I	CDS : Input disc inserted status detection.
45	TEST	I	Test point.
46 ~ 47	NC	I	Not connected.
48	LED	O	Output security LED ON/OFF ("H" = 120 ~ 130ms, 1 cycle = 3sec).
49 ~ 51	MI-1 ~ MI-3	I	Input diode matrix for initial setting.
52 ~ 54	MO-1 ~ MO-3	O	Output diode matrix for initial setting.
55	MO-4	O	Output diode matrix for initial setting. (Not used)
56 ~ 57	NC	O	Not connected.
58	ACC IN	O	Input ACC (power supply for accessory) ON/OFF.
59	BEEP	O	Output beep (3kHz, 50ms).
60	REMOTE	I	Input remote controller.
61	E-VOL CE	O	Output CE to electric volume (LC75374E).
62	E-VOL DO	O	Output data to electric volume (LC75374E).
63	E-VOL CLO	O	Output clock to electric volume (LC75374E).
64	DRV CONT	O	Output "H" when DRV status is 1/2.
65	RDS DI	I	Input RDS data (Pull down when not used).
66	DFP IN	I	Detect DFP (front panel) existence.
67	FLAP IN	I	Detect OPEN/CLOSE of FLAP DFP ("H" = DFP IN enable).
68	RDS CLI	I	Input RDS clock (Pull down when not used).
69	EJECT IN	I	Input eject detection when FLAP IN (Pin 67) is "L".
70	BATT IN	I	Input battery ON/OFF.
71	RE-1	I	Input rotary encoder 1.
72	RE-2	I	Input rotary encoder 2.
73	S-REQ	I	Input S-REQ signal.
74	REG CPU	–	Regulator for CPU power supply.
75	GND	–	GND.
76	X-OUT	O	System clock oscillator (4.5MHz) output.
77	X-IN	I	System clock oscillator (4.5MHz) input.
78	REG OSC	–	Regulator for oscillation circuit.
79	VDD	–	Power supply.
80	RESET	I	Input system reset.

IC, LC75374E

Pin No.	Pin Name	I/O	Description
1	RVR IN	I	4dB volume control input. Must be driven at a low impedance.
2	R COM	–	1dB volume control common pin.
3 ~ 5	RT1 ~ RT3	–	For the connection of capacitors that compensate for bass and treble in the tone control circuits. A high-frequency compensation capacitors must be connected between RT1 and RT2. A low-frequency compensation capacitors must be connected between RT2 and RT3.
6	RT OUT	O	Tone control output.
7	RS IN	I	Super bass input. Must be driven at a low impedance.
8	NC	–	Connected to GND.
9	NC	–	Not connected.
10 ~ 11	RSB1 ~ RSB2	–	For the connection of RCH super bass compensation capacitors.
12	FR IN	I	Fader input. Must be driven at a low impedance.
13	FR OUT	O	Fader output. The front and rear sides can be attenuated independently.
14	RR OUT		
15	VSS	–	GND.
16	CL	I	Serial data and clock input for control.
17	DI		
18	CE	–	Chip enable. Data is written in the internal latch when the chip enable signal goes "L" from "H", and each analog switch is activated. Data transfer is enabled at "H".
19	VREF	–	Generates a 1/2VDD power source. A capacitor must be connected between VREF and GND as a troubleshooting against power ripples.
20	RL OUT	O	Fader output. The front and rear sides can be attenuated independently.
21	FL OUT		
22	FL IN	I	Fader input. Must be driven at a low impedance.
23 ~ 24	LSB2 ~ LSB1	–	For the connection of LCH super bass compensation capacitors.
25	NC	–	Not connected.
26	NC	–	Connected to GND.
27	LS IN	I	Super bass input. Must be driven at a low impedance.
28	LT OUT	O	Tone control output.
29 ~ 31	LT3 ~ LT1		For the connection of capacitors that compensate for bass and treble in the tone control circuit. A high-frequency compensation capacitors must be connected between LT1 and LT2. A low-frequency compensation capacitors must be connected between LT2 and LT3.
32	L COM	–	1dB volume control common pin.
33	LVR IN	I	4dB volume control input. Must be driven at a low impedance.
34	LSELO	O	Input selector output pin.
35	AUX(L)	I	Signal input pins.
36	CD(L)		
37	TUN(L)		
38	TP(L)		
39	VDD	–	Power supply.

Pin No.	Pin Name	I/O	Description
40	TP(R)	I	Signal input pins.
41	TUN(R)		
42	CD(R)		
43	AUX(R)		
44	RSELO	O	Input selector output pin.

IC, LC75854W

Pin No.	Pin Name	I/O	Description
1	S1	O	LCD segment output.
2	S2	O	LCD segment ouptut. (Not used)
3 ~ 37	S3 ~ S37	O	LCD segment output.
38 ~ 39	S38 ~ S39	O	LCD segment output. (Not used)
40 ~ 43	COM1 ~ COM4	O	LCD common driver output.
44 ~ 45	KS1 ~ KS2	O	Key scan output. (Not used)
46 ~ 49	KS3 ~ KS6	O	Key scan output.
50 ~ 54	KI1 ~ KI5	I	Key scan input. These pins incorporate pull-down resistors.
55	TEST	–	Test pin. (Connected to GND)
56	VDD	–	Power supply.
57	VDD1	I	2/3 bias voltage is applied to the LCD drive externally. (Must be connected to VDD2 when a 1/2 bias drive scheme is used)
58	VDD2	I	1/3 bias voltage is applied to the LCD drive externally. (Must be connected to VDD1 when a 1/2 bias drive scheme is used)
59	VSS	–	GND.
60	OSC	I	Resistor and capacitor are attached externally form an oscillator circuit.
61	DO	O	Serial data interface pin; output data.
62	CE	O	Serial data interface pin; chip enable.
63	CL	O	Serial data interface pin; synchronization.
64	DI	I	Serial data interface pin; data transferred.

IC, CXD2587Q

Pin No.	Pin Name	I/O	Description
1	SQSO	O	Sub-Q 80-bit and PCM peak/level data output. CD TEXT data output.
2	SQCK	I	Clock input for reading SQSO.
3	XRST	I	System reset. Reset at "L".
4	SYSM	I	Muting input. Muted at "H".
5	DATA	I	Serial data input from CPU.
6	XLAT	I	Latch input from CPU. Latches serial data at the trailing edge.
7	CLOK	I	Clock input for serial data transfer from CPU.
8	SENS	O	SENS output to CPU.
9	SCLK	I	Clock input for reading SENS serial data.
10	VDD	–	Power supply of digital circuits.
11	ATSK	I/O	Input/output for anti-shock. (Connected to ground)
12	SPOA	I	Microprocessor extended interface (input A). (Connected to ground)
13	SPOB	I	Microprocessor extended interface (input B). (Connected to ground)
14	XLON	O	Microprocessor extended interface (output). (Not used)
15	WFCK	O	WFCK output. (Not used)
16	XUGF	O	WUGF output. MNT1 or RFCK is output when switched by command. (Not used)
17	XPCK	O	XPCK output. MNT0 is output when switched by command. (Not used)
18	CFS	O	GFS output. MNT3 or XROF is output when switched by command.
19	C2PO	O	C2PO output. GTOP is output when switched by command.
20	SCOR	O	Outputs "H" when Sub-code sync S0 or S1 is detected.
21	COUT	I/O	Track number count signal input/output. (Not used)
22	MIRR	I/O	Mirror signal input/output. (Not used)
23	DFCT	I/O	Defect signal input/output. (Not used)
24	FOK	I/O	Focus OK signal input/output.
25	LOCK	I/O	Outputs "H" when GFS sampled by 460 Hz is "H"; "L" when GFS is "L" continuously for 8 samplings. Or, a signal is input when LKIN is "1".
26	MDP	O	Spindle motor servo control output.
27	SSTP	I	Disc innermost edge detection signal input. (Connected to ground)
28	SFDR	O	Sled drive output.
29	SRDR	O	Sled drive output.
30	TFDR	O	Tracking drive output.
31	TRDR	O	Tracking drive output.
32	FFDR	O	Focus drive output.
33	FRDR	O	Focus drive output.
34	VSS	–	Ground of digital circuits.
35	TEST	I	TEST pin. (Connected to ground)
36	TES1	I	TEST pin. (Connected to ground)
37	XTSL	I	Crystal select input. "L" when 16.9344MHz crystal is used; "H" when 33.8688MHz crystal is used. (Connected to ground)
38	VC	I	Neutral voltage input.
39	FE	I	Focus error signal input.

Pin No.	Pin Name	I/O	Description
40	SE	I	Sled error signal input.
41	TE	I	Tracking error signal input.
42	CE	I	Neutral servo analog input.
43	RFDC	I	RF signal input.
44	ADIO	O	For test. (Not used)
45	AVSS0	–	Ground of analog circuits.
46	IGEN	I	Constant current input for OP amp.
47	AVDD0	–	Power supply of analog circuits.
48	ASYO	O	EFM full-swing output ("L" = VSS, "H" = VDD).
49	ASYI	I	Asymmetry comparator voltage input.
50	BIAS	I	Asymmetry circuit constant current input.
51	RFAC	I	EFM signal input.
52	AVSS3	–	Ground of analog circuits.
53	CLTV	I	VCO1 control voltage input for multiplication.
54	FILO	O	Filter output for master PLL (Slave: Digital PLL).
55	FILI	I	Filter input for master PLL.
56	PCO	O	Charge pump output for master PLL.
57	AVDD3	–	Power supply of analog circuits.
58	VSS	–	Ground of digital circuits.
59	VDD	–	Power supply of digital circuits.
60	DOUT	O	Digital output. (Not used)
61	LRCK	O	D/A interface LR clock output f=Fs. (Not used)
62	PCMD	O	D/A interface serial data output (2's COMP, MSB first). (Not used)
63	BCK	O	D/A interface bit clock output. (Not used)
64	EMPH	O	Outputs "H" when disc to be played is applied with emphasis; "L" when disc is not applied with emphasis. (Not used)
65	XVDD	–	Power supply of master clock.
66	XTAI	I	Crystal oscillator input. External master clock is input to this pin.
67	XTAO	O	Crystal oscillator output.
68	XVSS	–	Ground of master clock.
69	AVDD1	–	Power supply of analog circuits.
70	AOUT1	O	Lch analog output.
71	AIN1	I	Lch OP amp input.
72	LOUT1	O	Lch LINE output.
73 ~ 74	AVSS1, AVSS2	–	Ground of analog circuits.
75	LOUT2	O	Rch LINE output.
76	AIN2	I	Rch OP amp input.
77	AOUT2	O	Rch analog output.
78	AVDD2	–	Power supply of analog circuits.
79	RMUT	O	Rch "0" detection flag. (Not used)
80	LMUT	O	Lch "0" detection flag. (Not used)

IC, CXA2581N

Pin No.	Pin Name	I/O	Description
1	LD	O	APC amp output.
2	PD	I	APC amp input.
3	EQ-IN	I	RFAC-system VCA/EQ block input.
4	AC-SUM	O	RFAC-system RF SUM output.
5	GND	–	Ground.
6	A	I	A-signal input.
7	B	I	B-signal input.
8	C	I	C-signal input.
9	D	I	D-signal input.
10	E	I	E-signal input.
11	F	I	F-signal input.
12	SW	I	MODE switching signal input.
13	DVCC	O	Digital power supply.
14	DVC	O	DVC output.
15	RFAC	O	RFAC signal output.
16	FE	O	Focus error signal output.
17	FEI	I	FE amp virtual ground.
18	TE	O	Tracking error signal output.
19	TE-BAL	I	TE balance adjustment.
20	CE	O	Center error signal output.
21	CEI	I	CE amp virtual ground.
22	VCC	I	Power supply.
23	RFG	I	RFAC-system VCA block low-frequency gain adjustment.
24	BST	I	EQ boost level adjustment.
25	VFC	I	EQ cutoff frequency adjustment.
26	RFC	I	EQ cutoff frequency adjustment.
27	VC	O	VC voltage output.
28	RFDCO	O	RFDC signal output.
29	RFDCI	I	RFDC amp virtual ground.
30	DC-OFST	I	RFDC signal output offset adjustment.

IC, µPD78012FGC–656–AB8

Pin No.	Pin Name	I/O	Description
1	TE-BAL	–	Not used.
2	LO-REV	O	Loading motor reverse drive output.
3	LO-FWD	O	Loading motor forward drive output.
4	LIMT-SW	I	Inner edge limit switch.
5	RE-SW	O	CD/CD-RW switching output.
6	SV-CONT	O	Outputs "H" when power is turned on. (When power is supplied, this pin outputs "H" after DSP is initialized.)
7 ~ 8	NC	–	Not connected.
9	VSS	–	Ground.
10 ~ 17	NC	–	Not connected.
18	SRQ	O	Mechanism microprocessor communication request.
19	SLEEP	I	SLEED request from system microprocessor.
20	CHUCK-SW	I	Chucking complete switch.
21	LOAD-SW	I	Disc loading switch.
22	8/12-SW	I	8/12-cm check switch.
23	CD-ON	O	CD mechanism power control output.
24	VSS	–	Ground.
25 ~ 26	NC	–	Not connected.
27	APC	O	Laser on/off switching output.
28 ~ 30	NC	–	Not connected.
31	LOCK	I/O	Outputs "H" when GFS sampled by 460 Hz is "H"; "L" when GFS is "L" continuously for 8 samplings. Or, a signal is input when LKIN is "1".
32	FOK	I/O	Focus OK signal input/output.
33	C2PO	I	C2PO input.
34	GFS	I	GFS input.
35	RESET	I	System reset input.
36	NC	–	Not connected.
37	SCOR	I	Sub-code sync input.
38	SENS	I	SENS input.
39	CS	I	CS signal input.
40	VDD	–	Power supply.
41	X2	–	For generating main system clock.
42	X1	I	For generating main system clock.
43	IC	–	Connected to ground.
44	XT2	–	Not used.
45	XT1	–	Connected to VDD.
46	AVSS	–	Ground.
47 ~ 48	NC	–	Not connected.
49	SCLK	O	Outputs clock for reading SENS serial data.
50	CLK-DSP	O	Outputs clock for transferring DSP serial data.
51	LAT-DSP	O	DSP serial data latch output.

Pin No.	Pin Name	I/O	Description
52	DATA-DSP	O	DSP serial data output.
53	CD-MUTE	O	Muting output.
54	CD-RST	O	CD reset output.
55	AVDD	–	Power supply.
56	AVREF	–	A/D converter reference voltage input.
57	SQ-IN	I	Sub-Q/PCM peak/level data input.
58	NC	–	Not connected.
59	SQCK	O	Outputs clock for reading SQSO.
60 ~ 61	NC	–	Not connected.
62	SYS-DI	I	System microprocessor serial data input.
63	SYS-DO	O	System microprocessor serial data output.
64	SYS-CLK	I	System microprocessor serial sync clock input.

TEST MODE

1. How to activate CD test mode
   1) Remove the resistor R907 (100kΩ) from the MAIN C.B and add R999 (22kΩ resistor or chip resistor) to the MAIN C.B. (Fig. 1)
   2) Connect +12V to ACC/BACK UP and – (minus) to the ground of the CONNECTOR ASSY.
   3) Turn on the power.
   4) Test mode will be activated and all LCD display will light up. (Fig. 2)

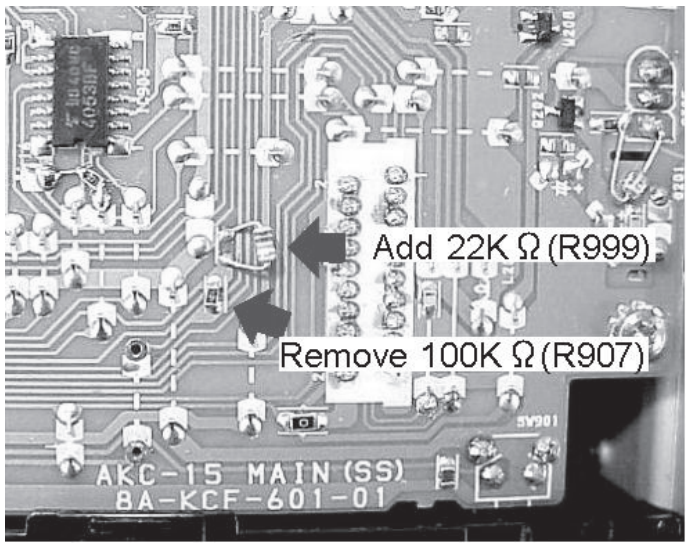


Fig. 1

Fig. 2

2. How to cancel CD test mode
   1) Turn off +12V to ACC/BACK UP.
   2) Solder back the resistor R907 (100kΩ) and remove R999 (22kΩ) from the MAIN C.B.
   3) Disconnect +12V from ACC/BACK UP and – (minus) from the ground of the CONNECTOR ASSY.

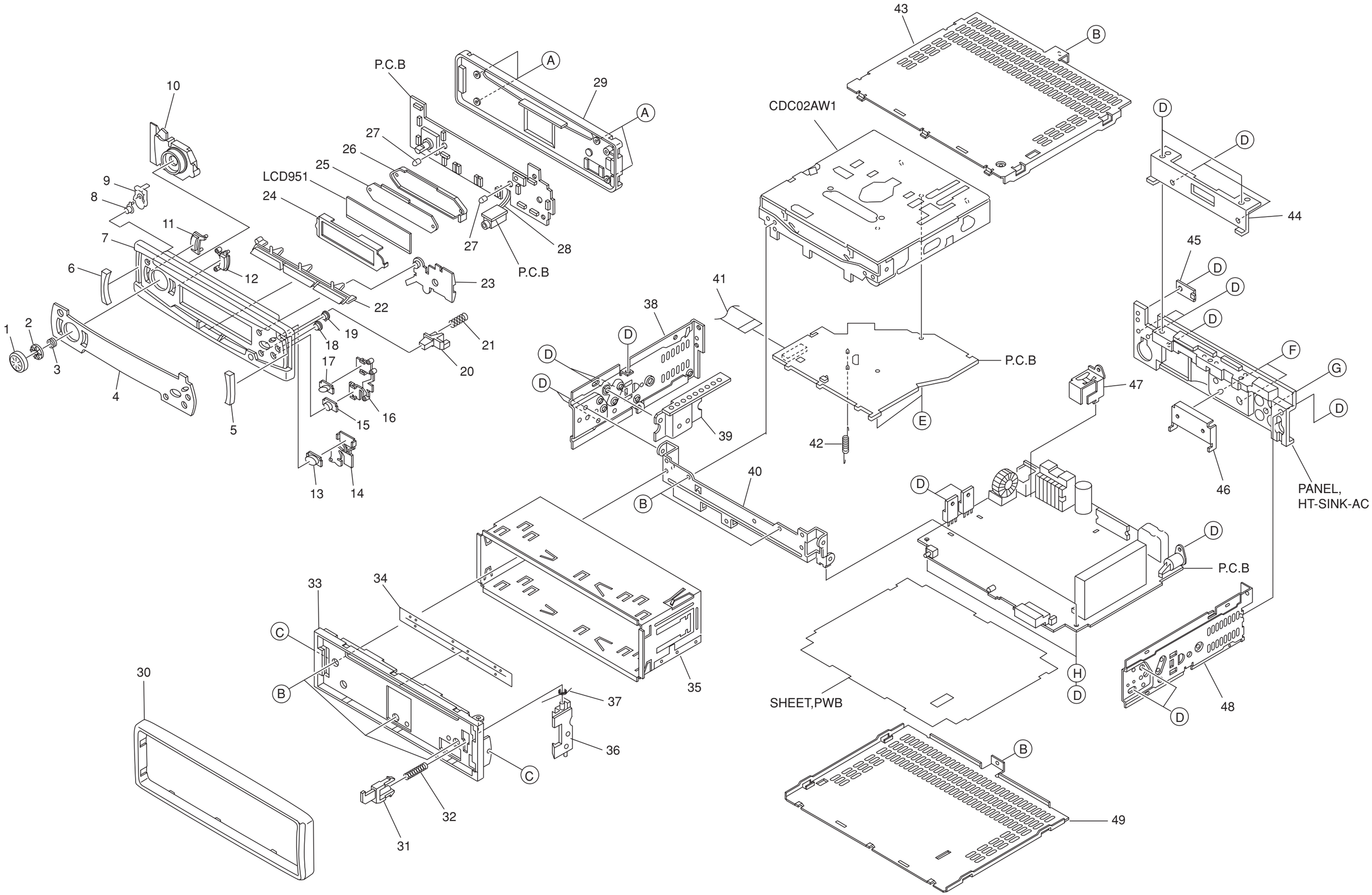
3. CD test mode functions

Mode	Operation Key	LCD Display	Operation	Contents
Start Mode		All LCD light up		Activate test mode
Load / Unload		All LCD light up	Chucking	• All servo off • Laser on • VCC on
Search Mode	RANDOM		• Continual focus search (The pickup lens repeat the full-swing) * NOTE 1	• Check APC circuit • Laser current measurement • Check focus error waveform
Play Mode	REPEAT 1	• TOC reading • Display Track No. and Play time • Display Level/Ing.	• Normal playback • Same operation as search mode if TOC cannot be read	• Focus servo • Tracking servo • CLV servo • SLED servo
Traverse Mode	INT	• Display Track No. and Play time	Playback pause status	Tracking servo off
Stop Mode	REPEAT	All LCD light up	Wait status	• All servo off • Laser on/off
Sled Mode		All LCD light up	 • Pickup moves to outer track • Pickup moves to inner track	• Sled servo • Check mechanism operation

• Do not insert the CD disc when checking the search mode.
• Press the REPEAT key to release each mode.

* NOTE 1 : There is a case that the CD cannot be operated owing to the protection circuit being operated when heat builds up in the driver IC if the focus search is opereated continually for more than 10 minutes.
In this case, the power supply should be switched off for 10 minutes until the heat has been reduced and then re-start.

MECHANICAL EXPLODED VIEW 1 / 1



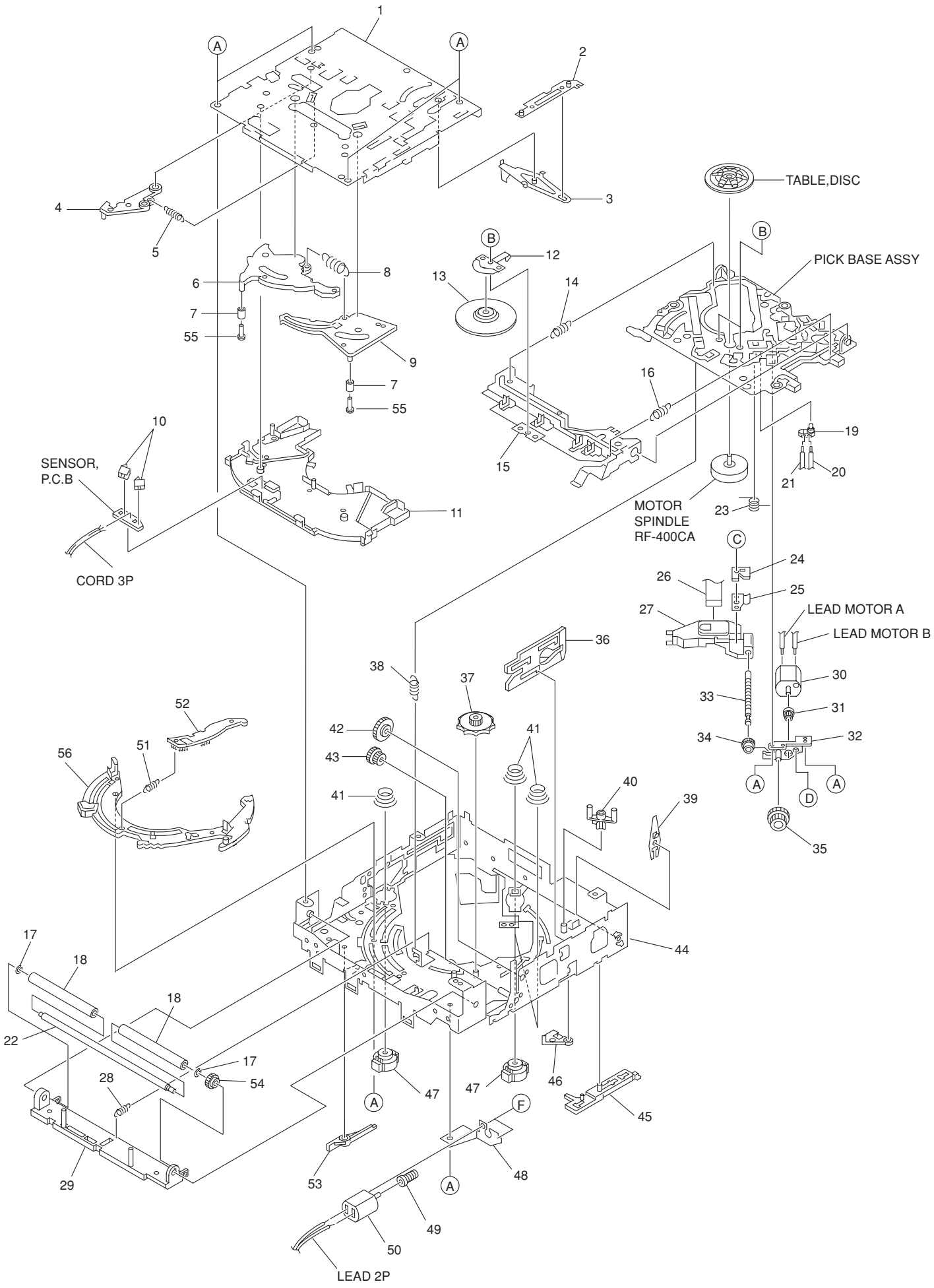
MECHANICAL PARTS LIST 1 / 1

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
1	8A-KC7-010-010		KNOB,RTRY RUBBER -AC
2	8A-KC7-020-010		RING,RTRY -AC
3	8A-KC7-220-010		SPR-C,ROTARY -AC
4	8A-KCF-003-010		WINDOW,LCD -AC15
5	8A-KCF-022-010		WINDOW,SIDE R -AC15
6	8A-KCF-021-010		WINDOW,SIDE L -AC15
7	8A-KCF-001-010		CABI,FRONT -AC15
8	8A-KC7-014-010		BTN,CLEAR S -AC
9	8A-KC7-208-010		HLDR,BTN L-AC
10	8A-KCF-211-010		LENS,ENCO -AC15
11	8A-KCF-007-010		BTN,SEESAW L -AC15
12	8A-KC7-007-010		BTN,SEESAW R -AC
13	8A-KC7-011-010		BTN,CLEAR L -AC
14	8A-KCF-208-010		HLDR,BTN R1 -AC15
15	8A-KC7-013-010		BTN,CLEAR ML -AC
16	8A-KCF-210-010		HLDR,BTN R3 -AC15
17	8A-KCF-012-010		BTN,CLEAR EJ -AC15
18	8A-KCF-008-010		BTN,MONO -AC15
19	8A-KCF-010-010		BTN,CLEAR S2 -AC15
20	8A-KCF-011-010		BTN,DETACH -AC15
21	8Z-KC2-223-010		SPR-C,DETACH -C2
22	8A-KC7-006-010		BTN,PRE.-AC
23	8A-KCF-212-010		LENS,R -AC15
24	8A-KCF-215-010		HLDR,LCD -AC15
25	8A-KCF-213-010		LENS,LCD -AC15
26	8A-KCF-214-010		CASE,LCD LENS -AC15
27	8Z-KT1-236-010		CAP,LAMP BLU
28	8A-KC7-611-010		F-CABLE,3P (AUX)
29	8A-KCF-002-010		CABI,REAR -AC15
30	8A-KCF-020-010		CABI,TRIM -AC15
31	8Z-KC2-203-210		LEVER,DFP HOOK -C2
32	8Z-KC2-221-110		SPR-C,DETACH HOOK-C2
33	8Z-KC2-011-210		CABI,BASE -C2
34	8A-KCF-220-010		COVER, DUST DFP -AC
35	8Z-KT1-231-110		HLDR,HALF-C
36	8Z-KC2-204-210		LEVER,DFP LOCK -C2
37	8Z-KC2-222-010		SPR-T,DETACH LOCK-C2
38	8Z-KC1-213-010		CHAS,SIDE L -C
39	8A-KC7-230-010		HLDR,TR2 -AC
40	8Z-KC2-201-210		CHAS,FRONT -C2
41	88-KC4-641-010		FF-CABLE, 20P 1.0 90MM
42	8A-KC7-255-010		SPR-C,WIRE
43	8Z-KC1-211-010		COVER, TOP -C
44	8Z-KC1-216-210		HLDR,DECK CDC-01
45	8Z-KC7-201-010		COVER, ISO BLIND -C
46	8A-KC7-224-010		HLDR,P-IC -AC
47	8A-KC7-225-010		HLDR,CD-AC
48	8Z-KC1-214-010		CHAS,SIDE R -C
49	8Z-KC1-212-010		COVER, BOTTOM -C
A	8Z-KC1-253-010		S-SCREW,PT 2*8 BH+ BLK
B	87-B10-216-010		U+2.6-4.0 ZINC BLK (BH M2.6)
C	8Z-KC1-251-010		S-SCREW,TH2.6-4.0-0.8
D	87-251-073-410		SCREW,U+2.6-6
E	88-ZG5-317-010		S-SCREW,8ZG5S+2-4 W/O
F	87-251-100-410		U+3-16
G	87-B10-259-010		UT2+3.0-10.0 W/O SLOT (BH TAP)
H	87-432-903-010		WASHER,WTE 2.6

COLOR NAME TABLE

Basic color symbol	Color	Basic color symbol	Color	Basic color symbol	Color
B	Black	C	Cream	D	Orange
G	Green	H	Gray	L	Blue
LT	Transparent Blue	N	Gold	P	Pink
R	Red	S	Silver	ST	Titan Silver
T	Brown	V	Violet	W	White
WT	Transparent White	Y	Yellow	YT	Transparent Yellow
LM	Metallic Blue	LL	Light Blue	GT	Transparent Green
LD	Dark Blue	DT	Transparent Orange	GM	Metallic Green
YM	Metallic Yellow	DM	Metallic Orange		

CD MECHANISM EXPLODED VIEW 1 / 1



CD MECHANISM PARTS LIST 1 / 1

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
1	S1-100-510-130		COVER TOP
2	S1-100-510-090		LEVER RELEASE
3	S1-100-510-180		ARM START SET
4	S1-100-520-220		LEVER,SENSOR
5	S1-100-540-070		SP LEVER SENSOR
6	S1-100-520-050		DISC ARM L
7	S1-100-530-260		ROLLER ARM DISC
8	S1-100-540-040		SP ARM DISC
9	S1-100-520-060		DISC ARM R
10	S1-100-570-760		SW,LOAD MPU10853MLB2
11	S1-100-520-230		GUIDE TOP
12	S1-100-510-070		PLATE CLAMPER
13	S1-100-520-040		CLAMPER
14	S1-100-740-020		SP,ARM CHUCK(L)
15	S1-100-510-030		ARM CHUCK
16	S1-100-740-040		SP ARM CHUCK(R)
17	S2-181-600-50D		PSW,1.6-5-0.25 (CUT)
18	S1-100-750-020		LOLLER LOADING
19	S1-100-570-070		SW,LNNER
20	S1-100-570-140		LEAD SW A
21	S1-100-570-150		LEAD SW B
22	S1-100-530-060		SHAFT ROLLER
23	S1-100-740-010		SP FEED
24	S1-100-510-110		GUIDE,SPG
25	S1-100-720-040		GUIDE A
26	S1-100-570-790		FLEX PICK(FOC)
27	S1-100-770-090		PICK KSS-710A
28	S1-100-540-100		SP LEVER UP
29	S1-100-520-240		LEVER,UP
30	S1-100-270-030		MOTOR,MAIN FF-030PK
31	S1-100-520-110		GEAR MOTOR FEED
32	S1-100-520-190		CASE,MOTOR
33	S1-100-730-010		SCREW,FEED
34	S1-100-520-090		GEAR,FEED A
35	S1-100-520-300		GEAR FEED B
36	S1-100-520-170		LEVER,R
37	S1-100-520-140		GEAR H CAM
38	S1-100-540-080		SP SUB DAMPER
39	S1-100-510-080		ARM,R
40	S1-100-520-180		LEVER,LOCK
41	S1-100-540-030		DAMPER SP
42	S1-100-520-130		GEAR LOAD
43	S1-100-520-120		GEAR L H
44	SX-100-710-030		CHASSIS ASSY
45	S1-100-520-160		LEVER,KICK
46	S1-100-520-270		LEVER,SUB KICK
47	S1-100-760-010		DAMPER ASSY
48	S1-100-510-060		BRACKET,L M
49	S1-100-520-200		MOTOR WORM
50	S1-100-770-080		MOTOR LOAD
51	S1-100-540-090		SP GEAR SUB
52	S1-100-520-030		GEAR SUB CAM
53	S1-100-520-250		LEVER,SW
54	S1-100-520-210		GEAR,ROLLER
55	S1-100-530-250		PIN ARM DISC
56	S1-100-520-020		GEAR CAM
A	S1-100-550-030		SCREW,XP
B	S2-101-170-22P		(+)P. PRECISION SCREW M1.7-2.2
C	S2-103-170-60P		(+)P. PRECISION SCREW M1.7-6
D	S2-103-200-40P		(+)P.PRECISION SCREW M2.0-4.0
F	S2-101-200-25P		(+)P.PRECISION SCREW M2.0-2.5

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